INSECTS OF MICRONESIA
Coleoptera: Nitidulidae*

By LORIN R. GILLOGLY

CALIFORNIA DEPARTMENT OF AGRICULTURE
LOS ANGELES

INTRODUCTION

This report on the Nitidulidae of Micronesia is based on a collection of approximately 4,600 specimens, assembled by the Pacific Science Board of the National Research Council. Included in the total are more than 1,300 specimens from the Chicago Natural History Museum. Most of the material was mounted on points, but about 1,000 were preserved in alcohol.

I wish to acknowledge my appreciation of the assistance and cooperation of many individuals during this study; of Dr. J. Balfour Browne of the British Museum (Natural History) for the loan of several types and many specimens which were determined by Murray and by Grouvelle; of Drs. P. Guillermo Kuschel of the University of Chile and F. Capra of the Civic Museum of Genoa, Italy, who kindly compared types deposited in the Civic Museum of Genoa with sketches of allied specimens from Micronesia; of Dr. Sadanari Hisamatsu of Ehime University, Matsuyama, Japan who sent specimens, literature, and sound observations concerning various species; and, especially, of my wife, Gwendolyn M. Gillogly, who prepared the drawings and typed the manuscript.

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The following symbols are used to designate the museums in which specimens are deposited: BISHOP (Bishop Museum), BM (British Museum), CAS (California Academy of Sciences), CM (Chicago Natural History Museum), HSPA (Experiment Station of the Hawaiian Sugar Planters' Association), KU (Kyushu University), MCZ (Museum of Comparative Zoölogy),

* This represents, in part, Results of Professor T. Esaki's Micronesian Expeditions (1936-1940), No. 112.

TT (Trust Territory), and US (United States National Museum). Under each species the distribution records are arranged from north to south from the Bonins to Guam, and west to east from the southern Palaus to the Gilberts.

Two technical points used throughout this paper should be mentioned here to prevent confusion. The submarginal lines on the abdominal segments have been called by Murray (1864, pp. 222, 256, 287[1]) the "fimbriae," which he likens to the folded back portion of a sclerite. Used in this sense it is a useful term, but it should not be confused with "fimbria" meaning ciliated edges. In measuring the length and width of the prothorax, I have taken the length along the dorsal center line and the width wherever it is greatest.

ZOOGEOGRAPHY

The Nitidulidae of Micronesia are represented by 39 species belonging to nine genera in three subfamilies; of these, one genus and 13 species are described as new. Nine of these 13 species were collected from the southern Mariana–Palau area and other four were found in the eastern Caroline Islands of Truk, Ponape, and Kusaie. No new species of Nitidulidae were taken in the Bonin, Volcano, northern Mariana, Marshall, or Gilbert Islands. Except for the new species, none of the Micronesian Nitidulidae are known exclusively from Micronesia but appear to have been transported, probably by man, from southern Asia and Polynesia.

The discontinuous distribution of several species in Micronesia, as well as the occurrence of so many species in the southern Marianas and the Palau Islands, might be explained by the frequent visits of vermin-infested copra ships. This is evident in the column "other localities" on the distributional chart; nearly every one of the places listed was a port of call for the copra traders before they reached Micronesia.

The subfamilies Cateretinae and Cryptarchinae are absent from Micronesia although these groups are found on all of the circumpacific continents and in Japan. The Meligethinae in Micronesia are represented by a single endemic genus, although this subfamily is well represented in Asia and in the Americas. The absence or scarcity of the three subfamilies mentioned above as compared to the Carpophilinae and Nitidulinae, which are generally scavengers, is easily explained. The beetles in the missing groups feed primarily upon flowers, in fungi, or under bark and are seldom encountered around the docks or in foodstuffs.

All of the species reported in this paper are attracted to and feed upon rotting fruit and vegetation. None, with the possible exception of *Cillaeopeplus gracilis,* which was taken by "sweeping and beating vegetation," were collected from endemic flowers or fungi where strictly endemic species might be expected.

[1] Dates in parentheses refer to Bibliography, p. 187.

Distribution of Micronesian Nitidulidae

	Micronesia Island Groups											Other Localities
				Caroline								
	Bonin	Volcano	S. Mariana	Palau	Yap	Caroline Atolls	Truk	Ponape	Kusaie	Marshall	Gilbert	
Carpophilinae												
1. Brachypeplus kusaiensis*									×			
2. B. ponapeus*								×				
3. Cillaeopeplus gracilus*			G†									
4. Cillaeus rastrus*			G									
5. Urophorus humeralis	×	×	×	×	×	×	×			×	×	Cosmopolitan
6. Carpophilus davidsoni			×	×	×	×	×	×	×	×	×	Australia
7. C. dimidiatus			×	×						×		Cosmopolitan
8. C. frivolus				×								Australia
9. C. hemipterus			×				×			×		Cosmopolitan
10. C. maculatus			×	×	×	×	×	×	×	×	×	Polynesia, Ceylon, Philippines
11. C. marginellus	×						×			×		U.S.A., Africa, Japan, S. Asia, E. Indies, Madagascar
12. C. mutilatus			×						×	×		Cosmopolitan
13. C. obsoletus				×								Cosmopolitan
14. C. oculatus			×				×	×	×	×		Society Is.
15. C. pilosellus	×		×	×	×	×			×	×	×	U.S.A., Japan
Meligethinae												
16. Haptognathus minutus*			×									
17. H. nitidus*			×	×								
18. H. pacificus*			×	×	×							
19. H. reticulatus*			×	×								
Nitidulinae												
20. Haptoncus albertisi			×		×					×	×	New Guinea
21. H. arcuatus*							×	×				
22. H. attenuatus*				×			×	×	×			
23. H. barbulus*				×	×	×						
24. H. dispersus				×	×		×					Africa, Madagascar
25. H. epuraeoides			×	×	×	×	×	×			×	India, Ceylon
26. H. insularis				×								Timor-Deli
27. H. luteolus			×		×	×	×		×	×	×	Cosmopolitan
28. H. minutus			×	×	×	×	×	×		×	×	Madagascar, S. Asia
29. H. murrayi			×									Mentawai Is.
30. H. ocularis	×		×							×		Cosmopolitan
31. H. opaculus				×								Timor
32. H. opacus				×				×	×			Sumatra
33. H. sobrinus									×			Madagascar, Seychelles
34. H. sordidus			×					×		×		New Guinea
35. H. testaceus			×		×						×	New Guinea, Macassar
36. H. valgus*			×	×								
37. Stelidota alternata*			×									
38. S. nigrovaria				×								India, Tahiti
39. Prometopia quadrimaculata			×									S. Asia, East Indies

* Described as new.
† Guam only.

With pairs of species such as *Carpophilus dimidiatus* and *C. mutilatus, C. maculatus* and *C. davidsoni, Haptoncus minutus* and *H. epuraeoides,* the gradation of the characters of one species into those of another is so nearly continuous that I am tempted to think of them as merely phenotypes of the same species, especially when both species are separated in nearly equal numbers from each of several large series. The solution of such problems as this must, however, await carefully controlled rearing studies in the laboratory.

SYSTEMATICS

Key to the Subfamilies and Genera of Nitidulidae of Micronesia

1. Elytra truncate, or sinuate on tips, at least two exposed dorsal segments chitinized (Carpophilinae) 2
   Elytra entire, pygidium the only exposed chitinized dorsal segment 6

2(1). Body elongate, length at least three times width 3
   Body oval, length about twice width 5

3(2). Mesosternum depressed below metasternum, prosternal process depressed behind coxae .... **Cillaeopeplus**
   Mesosternum nearly level with metasternum, prosternal process not depressed behind coxae 4

4(3). Tibiae armed with stout teeth or spines on outer margin; prothorax base narrower than elytra .... **Cillaeus**
   Tibiae: anterior pair finely serrate, others margined with setae only; prothorax base about as wide as elytra .... **Brachypeplus**

5(2). Abdomen with three chitinized dorsal segments exposed .... **Urophorus**
   Abdomen with two chitinized dorsal segments exposed .... **Carpophilus**

6(1). Four posterior tibiae with simple outer edges, without keel on upper side, tips rounded or obliquely truncate, anterior tibiae crenulate or toothed (Meligethinae) .... **Haptognathus**
   Four posterior tibiae with double outer edges, upper edge rather dorsal, giving effect of keel; all tibiae truncate or with outer angle produced and toothlike (Nitidulinae) 7

7(6). Elytra without striae, tips usually truncate .... **Haptoncus**
   Elytra striate, entire 8

8(7). Antennal grooves parallel, body convex .... **Stelidota**
   Antennal grooves strongly convergent, body depressed .... **Prometopia**

Genus **Brachypeplus** Erichson

Brachypeplus Erichson, 1842, Archiv. Naturgesch. **8**: 148 (type: *Brachypeplus planus* Erichson).

Nitidulopsis Walker, 1858, Ann. Mag. Nat. Hist. III, **2**: 206 (type: *Nitidulopsis aequalis* Walker).

Body elongate, usually depressed. *Head* little narrower than pronotum. Clypeus projecting, feebly emarginate in front. Antennae a little longer than head, first segment enlarged, second rather stout, third elongate, club flattened, usually round in outline. Antennal grooves short and slightly or strongly convergent. Eyes rather small, facets very fine. Labrum little emarginate, sides rounded, sometimes with a notch on each side. Mandibles usually with two small teeth behind apex. Lacinia short, rounded, with a brush of

hairs on tip and on inner margin. Maxillary palpi rather short and thick, first segment minute, second unequal and large, third shorter, fourth longer than second. Ligula large, corneus, with rather broad, ciliated, membranous paraglossae. Labial palpi short, first segment very small, second large, thick, third more flattened and rather truncated. Mentum rather transverse, variously emarginate in front, usually toothed in middle. *Prothorax* transverse, about as wide as elytra, posterior angles nearly rectangular, sides narrowly margined. Scutellum transverse, variable in form. *Elytra* costate or striate, very short, truncate, exposing three dorsal chitinized segments, each marked with a line along sides and anterior margin. Prosternum not projecting but depressed behind coxae. Mesocoxae and metacoxae about equally separated, about twice as far as procoxae. Ventral abdominal segments one and two short and about equal, third and fourth equal in length and longer than first two, fifth longest. Legs short. Tarsi feebly dilated, last segment as long as first four together. Claws simple. Supplementary segment of male pygidium visible both from above and below.

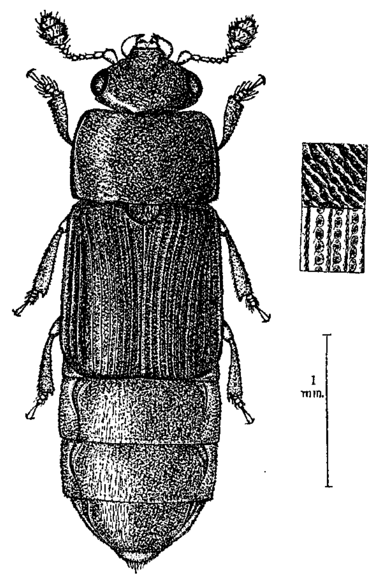


FIGURE 1.—*Brachypeplus kusaiensis*, holotype, male, length 3.5 mm.

1. **Brachypeplus kusaiensis** Gillogly, n. sp. (figs. 1, 2).

Elongate, depressed, feebly shining, pubescent, rather strongly punctate, uniformly brown. *Head* strongly, moderately densely punctate becoming closely punctate and rugose on vertex. Antennae with scape moderately large, second and third segments somewhat longer than wide, fourth to eighth short and quadrate, three-segmented compact club only slightly longer than wide. Anterior tentorial pits dark, distinct, dividing distance between eyes into thirds. Eyes finely faceted, facets smaller than punctation on front. Temples present behind eyes. Mouthparts: Labrum rounded, entire, slightly longer at midpoint. Mandibles asymmetrical; left bifid with several strong teeth on inner margin, outer margin evenly arcuate; right tip trifid, with smaller teeth on inner margin, outer margin straight near tip then suddenly rounded; each mandible with distinct membranous prostheca. Maxillae short, heavily bearded on tip; palpi, first segment minute, others rather thick and short. Labium: Ligula with lobes of paraglossae rounded, membranous; palpi with first segment minute, second large and swollen, terminal segment truncate and thick. Mentum

emarginate, emargination bisinuate. *Prothorax* transverse, nearly twice as wide as long, covered with rather long, pale pubescence, punctations distinct, rather small within large rugulose depressions; anterior margin straight, edged with stiff, straight, separated setae; sides parallel for two-thirds of distance from base then narrowed to rounded anterior angles; side margins reflexed, becoming rather broadly reflexed toward posteior angles, edge very finely and closely ciliate, base slightly bowed, distinctly sinuate on each side of scutellum, from angle to sinuation edged with short, stiff sparse setae, between sinuations edged as anterior margin with stiff, straight, separated setae. Scutellum semicircular, closely, coarsely punctate, pubescent, tip with transverse impression giving appearance of margin on scutellum. *Elytra* sides parallel, tips truncate, outer angles widely rounded, sutural angles rectangular, margin narrowly reflexed, edged with very fine closely set ciliae, becoming on tip stiff, widely separated setae; serially punctate with ten rows of closely set pale setae emphasizing costal intervals which are flat and which have a row

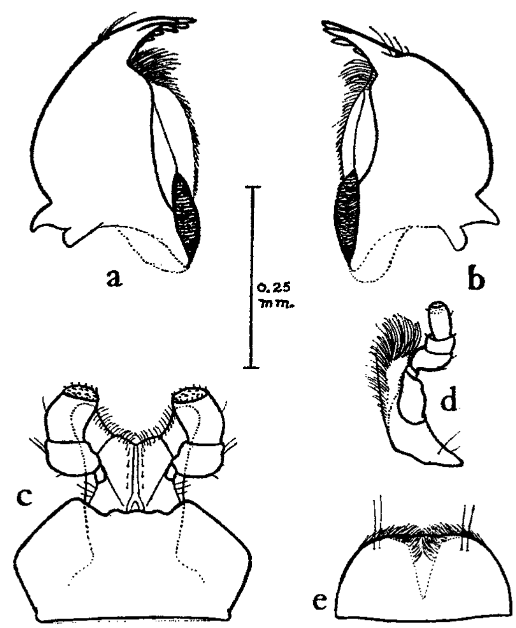


FIGURE 2.—*Brachypeplus kusaiensis:* **a,** left mandible; **b,** right mandible; **c,** labium; **d,** maxilla; **e,** labrum.

of large, shallow, oval, longitudinal punctations. Dorsal abdominal segments finely punctate, with long pale pubescence. Fimbriae on sides of dorsal segments narrowest near middle and widening both anteriorly and posteriorly; on pygidium rather narrow for most of their length. *Prosternum* shining, sparsely punctate, process narrow between coxae, flat, widely expanded, and broadly truncate behind coxae. Mesosternum short, triangular; steep. Metasternum pubescent, strongly punctate, surface reticulate, axillary space completely lacking, canaliculate for reception of posterior femur. Abdominal segments thickly pubescent, reticulate, first two segments short, others at least twice as long, fimbriae not visible. Length 2.7-3.7 mm.; width 0.9-1.2 mm.

Holotype, male (US 65906), Innem R., Kusaie, 60 m., Jan. 28, 1953, Clarke; allotype, female (BISHOP 3169), same data as type; 12 paratopotypes.

DISTRIBUTION: Eastern Caroline Is.

HOST: "Dead flower of Nipa palm," Clarke.

In Murray's key, *B. kusaiensis* falls in with Australian and Tasmanian species of the subgenus *Tasmus* by having very finely ciliate prothoracic margins. Though the prothorax is the same general shape as that of the Tasmanian *Brachypeplus planus* Erichson and Australian *B. castaneipes* Murray, *B. kusaiensis* seems to fit much better in Murray's subgenus *Selis* in which the mandibles have "the apex narrow and salient, the one bicuspid, the other with five or six small teeth. Ligula with the membranous lobes subovate. Scutellum rounded at the apex." It differs, however, from *B. cuneatus* Murray (described from Batchian in the Moluccas) of this group in being only one half the size, having the labrum entire rather than distinctly notched in the middle, the prothorax not at all emarginate in front, and the punctations in the intervals of the elytra longitudinal rather than transverse.

2. **Brachypeplus ponapeus** Gillogly, n. sp. (fig. 3).

Elongate, depressed, shining, feebly pubescent, strongly punctate, piceous except one testaceous, callow specimen. *Head* transverse, 1.5 times as wide as long, eyes finely faceted, occupying entire side of head leaving no temples behind eyes, anterior margins of eyes strongly convergent, sides of head anterior to eyes more strongly convergent, front suddenly narrowed and prolonged before bases of antennae, becoming almost parallel before squarely truncate tip, a definite shallow arcuate impression between bases of antennae, anterior to this impression color quite reddish, punctation strong and close on vertex, becoming fine on the clypeal area. Labrum short, entire, very transverse. Mandibles bifid on tips. Antennae reddish, club fuscous, first segment large, second rather thick, third longer than second, about twice as long as wide, four through eight gradually shorter and thicker, club compact, oval. *Prothorax* transverse with width to length as 1.4 to 1, apex considerably narrower than base, truncate, anterior angles broadly rounded, sides narrowly reflexed, arcuate to midpoint then nearly parallel to base, set with very short ciliae, posterior angles rather acutely rounded, sides perpendicular to base, base distinctly sinuate on each side of scutellum, punctate as on vertex of head. Scutellum transverse, pentagonal, rather finely closely punctate. *Elytra* slightly wider than prothorax, sides parallel, with nine striae which converge toward suture and flare slightly near tips giving a constricted appearance to elytra at posterior fourth. Striae closely set with a single row of rather coarse strong punctations, deep at base and obsolete near tip of elytra, ridges flat, twice as wide as grooves, shining, very finely, irregularly, strongly punctate, pubescence pale, fine, inconspicuous, tips of elytra truncate, outer angles broadly rounded, sutural angles distinct, right-angled. Three dorsal abdominal segments visible; fimbriae broad, as wide before as behind, strongly narrowed at anterior third, narrow on pygidium; surface shining, punctations moderate, rather shallow, separated by at least one diameter, pubescence short and pale. Mentum strongly transverse, finely, very closely punctate. Submentum more coarsely punctate than mentum, strongly triangular, sides strongly raised and forming interior margin of deep, strongly convergent antennal grooves. Prosternum strongly convex, nearly impunctate except in middle in front of coxae, surface transversely alutaceous except near middle. Prosternal process flat, expanded behind coxae, truncate and strongly bearded on tip. Mesosternum reticulate, not carinate. Metasternum closely punctate, interspaces smooth and shining; median longitudinal line distinct; intercoxal process of first abdominal segment acute. Second abdominal segment shortest, about one-half as long as first; third, fourth, and fifth each slightly longer than preceding, surface closely punctate, interspaces smooth and shining.

Male with pygidium truncate, supplemental segment terminal, strongly pubescent on outer margin and tip. Length 5 mm.; width 1.4 mm.

Holotype, male (US 65907), E. Nanponmal, Ponape, 65 m., Jan. 12, 1953, Gressitt; allotype, female (BISHOP 3170), same data as holotype; four paratopotypes, two females, one callow male, and one pupa, same data as types; ex rotten *Exorrhiza* palm.

DISTRIBUTION: Eastern Caroline Is.

Brachypeplus ponapeus has the ciliate prothoracic margins which characterize Murray's subgenus *Tasmus* and thus may be grouped with the Australian and East Indian fauna. It is, however, easily separated from the *Tasmus* group by the second abdominal segment being half as long as the first rather than the first two being very short. It seems closest to *B. dubreuili* Grouvelle but differs in being more uniformly piceous, in having the sides of the prothorax straight rather than sinuate before the hind angles, and in having deep, rather than scarcely impressed, striae on the elytra.

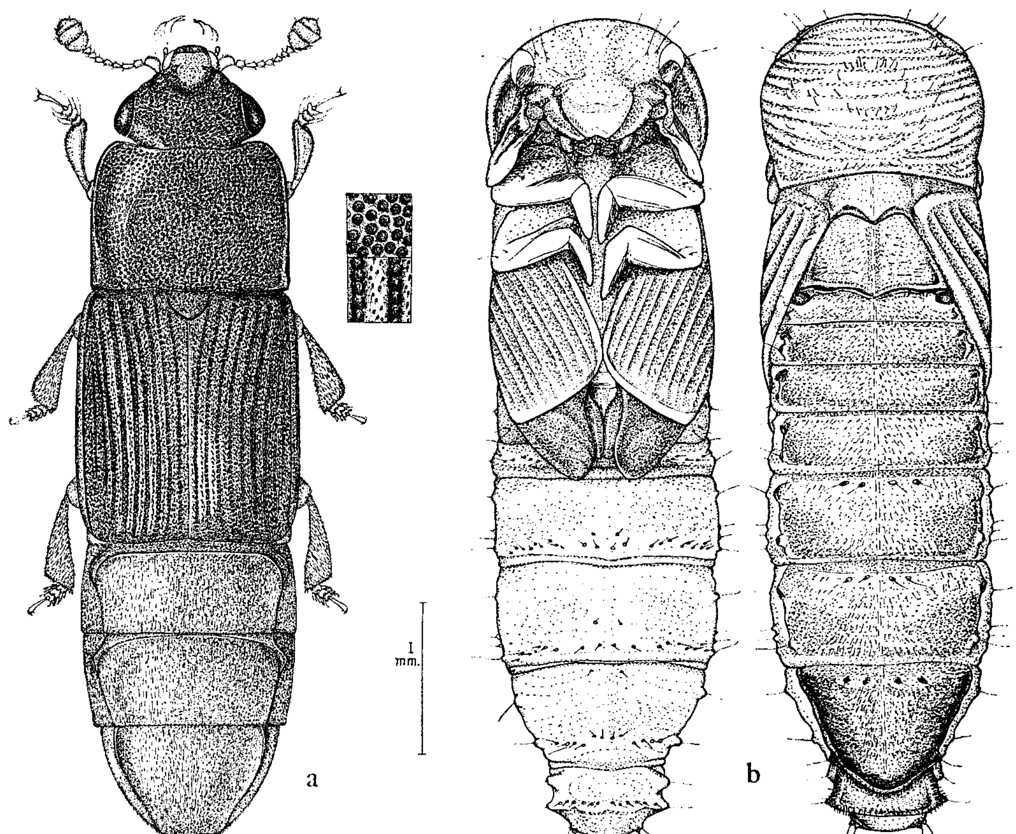


FIGURE 3.—*Brachypeplus ponapeus:* **a**, holotype, male, length 5 mm.; **b**, pupa, ventral and dorsal views, length 5.5 mm.

Genus **Cillaeopeplus** Sharp

Cillaeopeplus Sharp, 1908, Fauna Hawaiiensis III, **5**: 436, 505 [type: *Cillaeopeplus infimus* (Sharp)].

Body elongate, parallel, depressed. Elytra strongly truncate, leaving three dorsal abdominal segments exposed. Second ventral abdominal segment short, first nearly twice as long, third equal to first, fourth wider, fifth longest. Prosternal process widened behind coxae. Tarsi not at all dilated.

Cillaeopeplus is closely allied to *Cillaeus* Laporte but is more depressed, does not have the tarsi dilated, and the mesosternum is set a little below the level of the metasternum. Except for a single new species, *C. gracilus,* from Micronesia, the genus is known only from the Hawaiian Islands where it is represented by five species.

The following key will serve to separate *C. gracilus* from the Hawaiian species.

Key to Species of Cillaeopeplus

1. Hind femora with an angular prominence at middle .... **perkinsi**
   Hind femora without such prominence 2

2(1). Prothorax longer than wide, elytral grooves wider than interspaces .... **dubius**
   Prothorax wider than long, elytral grooves not wider than interspaces 3

3(2). Temples prolonged behind the eyes, forming sharp angle 5
   Temples absent, eyes occupying entire side of head 4

4(3). Pronotum strongly, closely punctate, interspaces shiny and not at all reticulate .... **3. gracilus**
   Pronotum sparsely punctate, interspaces rather strongly reticulate .... **swezeyi**

5(3). Prothorax side margins even, anterior angles rounded .... **infimus**
   Prothorax side margins serrate, anterior angles distinct .... **staphyliniformis**

3. **Cillaeopeplus gracilus** Gillogly, n. sp. (fig. 4).

Elongate, parallel, depressed, strongly pubescent, surface shining, dark testaceous. *Head* vertical, dark brown, eyes prominent, interior margins rather strongly convergent, temples absent behind eyes, epistome considerably prolonged and narrowed to rather narrow labrum, strongly closely punctate, densely pubescent. Labrum transverse, entire. Maxillary palpi short and rather thick. Labial palpi swollen. Submentum very coarsely punctate, rugose. Antennal grooves deep and strongly convergent. Antennae short, club barely reaching anterior coxae, all segments short and thick, club compact. *Prothorax* quadrate, slightly wider than long, anterior margin straight, side margins straight, very narrowly reflexed, edges ciliate, anterior and posterior angles rounded, base slightly narrower than apex, base lightly sinuate on each side of scutellum, surface strongly closely punctate, rather strongly pubescent, intervals between punctures shiny, not at all alutaceous. Scutellum pentagonal, punctate and pubescent as prothorax. *Elytra* serially punctate, with 11 rows of setae on the disc of each, elongate, with length to width as 1.33 to 1, sides narrowly margined, parallel, ciliate as prothorax, tips truncate, exterior angles rounded, sutural angles right-angled. Abdomen elongate, with two and one-half dorsal segments exposed, strongly punctate and pubescent, fimbriae rather broad, becoming narrowed on pygidium and not attaining tip. Pygidium nearly quadrate, being broadly rounded on tip. Prosternum strongly, closely punctate immediately in front of process, becoming impunctate toward sides, surface smooth and shining between punctures and closely, strongly reticulate toward sides. Mesosternum lightly alutaceous, convex, set down below plane of metathorax. Metathorax obsoletely punctate, alutaceous in nearly longitudinal lines. Posterior coxae nearly meeting, forming

acute point on first abdominal segment. Abdominal segments reticulate, strongly punctate and pubescent. Legs short. Anterior tibiae unarmed, middle and posterior tibiae armed on outer edge. Tarsi simple, not dilated. Claws toothed at base. Length 2.5 mm.; width 0.6 mm.

Holotype, male (CM), Guam, Pt. Oca, Mariana Is., June 2, 1945, Dybas; allotype, female (CM), Amantes Point, Guam, May 27, 1945, Dybas.

DISTRIBUTION: S. Mariana Is. (Guam).

This species is known only from the types which were taken by sweeping and beating vegetation. The greater length of the female, as illustrated, may have been caused by distention and extrusion of the segments, and in life the male and the female are probably about the same length.

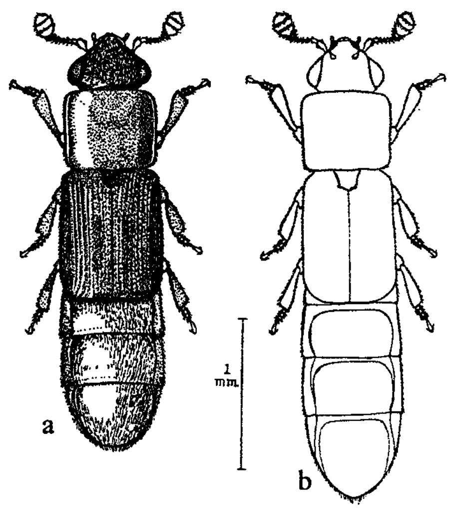


FIGURE 4.—*Cillaeopeplus gracilus:* a, holotype, male, length 2.7 mm.; b, allotype, female, length 2.9 mm.

Genus **Cillaeus** Laporte

Cillaeus Laporte, Compte de Castelnau, 1835, Études Ent., 133 (type: *Cillaeus castaneus* Laporte; Madagascar).

Body elongate, parallel, and depressed. *Head* large and broad, epistome sometimes porrect, eyes prominent, temples present but more or less strongly constricted. Antennae short, club compact oval. Antennal grooves short, distinct, and convergent. Labrum rounded in front. Mandibles short, curved, with bicuspid tip, and subserrate in some species. Lacinia strongly bearded and with a basal tooth in some species. Maxillary palpi with first segment minute, second large, third smaller, last elongate and as large as two preceding together. Ligula oval, keeled, with coriaceous paraglossae ciliated along their inner side; in some species with short, rounded, membranous lobes. Labial palpi short, with first segment small, second a little longer and thicker than last segment which is somewhat oval. Mentum transverse, usually varying distinctly between species. *Prothorax* a little longer than wide,

base narrower than apex. Scutellum rather large, transverse, and triangular. *Elytra* truncate, leaving three dorsal chitinous segments exposed, submarginal lines on these segments narrowly parallel to side margins. Prosternum flat. Mesosternum large, broad, and flat, on same plane with prosternum and metasternum. Middle coxae more widely separated than either anterior or posterior coxae. First two ventral abdominal segments short, others large. Legs short and stout, femora slightly grooved for reception of tibiae. Tibiae dentate or with small spines on outer margin and without grooves for reception of tarsi. Tarsi short, dilated, with long hairs below. Claws simple.

Grouvelle found (1906, pp. 68-69) that the species treated by Murray (1864, p. 312) as *Cillaeus castaneus* Laporte is actually another species, *C. ambiguus* Grouvelle. The species which Murray (1864, p. 313) described as *C. megacephalus* Laporte is *C. castaneus* Laporte. Thus if one wishes to consult the description of this genotype, Murray's description of *C. megacephalus* Laporte should be used.

4. **Cillaeus rastrus** Gillogly, n. sp. (fig. 5).

Elongate, depressed, dorsum glabrous, venter with short yellow setae, strongly punctate, surface between punctures smooth and shining, testaceous except vertex of head and posterior margins of exposed abdominal segments darker, distal half of elytra piceous. *Head* rather coarsely, strongly punctate, eyes very finely faceted, occupying entire side of head, temples absent. Antennae a little longer than head, first segment enlarged, second quadrate, third cylindrical and twice as long as segments four to eight which are nearly equal in length, nine to eleven forming a rather large, nearly circular, compact club. *Prothorax* nearly quadrate, narrowed toward base, with width to length as 1.2 to 1, evenly, very coarsely, strongly punctate, intervals smooth and shining, disc depressed, anterior margin straight, anterior angles broadly rounded, sides very narrowly margined, straight, posterior angles rounded but sides set at right angles to base, posterior margin sinuate on each side of scutellum. Scutellum faintly pentagonal, coarsely, closely, strongly punctate, punctation finer than on prothorax but considerably more coarse than on head. *Elytra* striate, linear, conjointly with length to width as 1.25 to 1, sides straight, tips truncate, outer angles broadly rounded, sutural angles distinctly right angled, each elytron with nine costae, outer costa divided at about midpoint, each costa shiny, bearing a row of distantly spaced fine punctures, intervals between costae very closely, coarsely, strongly punctate. Abdomen with three dorsal segments exposed, fimbriae distinct on sides of each and across anterior margins of segments, punctation much as on head but becoming fine toward posterior margin of each segment. Pygidium of male truncate on tip with supplementary segment visible from above; tip rounded in female; in both sexes distal half clothed with short yellow pubescence. *Mouthparts:* Labrum rounded, lightly sinuate in middle, a small protuberance projecting from middle of sinuation; mandibles with bifid tips, inner margin serrate; maxilla with lacinia slender, somewhat expanded on tip which is strongly bearded, palpi rather stout; labium with glossae short and truncate, paraglossae hardly surpassing glossae, bearded on tip, palpi short and swollen. Antennal grooves deep, very strongly convergent. Prosternum convex, finely, moderately punctate, prosternal process expanded behind coxae, extending half across mesosternum, truncate on tip. Mesosternum comparatively large, flat, nearly impunctate. Metasternum shining, strongly sparsely punctate, median suture distinct for three-fourths of distance to mesosternum, axillary space absent. First two abdominal segments short, nearly equal in length, together about as long as other segments, all segments strongly, moderately closely punctate. Femora canaliculate for reception of tibiae, all tibiae armed along outer margin with stout spines. Tarsi little dilated. Males with semicircular rastrus occupying central third of penultimate ventral abdominal segment, extending from near posterior margin of segment to somewhat more than half way to anterior margin of segment; supplementary segment visible from beneath and strongly pubescent. Length 2.5 mm.; width 0.6 mm.

which is impunctate, sides impressed with marginal lines which do not reach apex. *Elytra* one-sixth wider than long, as wide as prothorax, widest at middle, disc shining, sparsely punctate, punctures becoming closer toward sides and tips, also becoming alutaceous away from disc. Dorsal abdominal segments less shining, closely obsoletely punctate, interspaces finely reticulate, these segments more strongly pubescent than elytra. Mentum coarsely, closely punctate. Prosternum closely punctate, not shiny, process sparsely punctate, interspaces shining. Metasternum sparsely punctate, interspaces shining, axillary space nearly impunctate, finely reticulate, slender, extending along epimeron about one-third its length. Ventral segments punctate, rather more pubescent than other parts of body, surface finely reticulate, not shining.

Male: Supplementary segment visible from above, fifth ventral segment deeply excised, sixth strongly pubescent on tip, concave disc on venter very finely closely punctate, two pencils of setae just before hind margin of fourth ventral segment. Length 2.7-5 mm.; width 1.4-2.1 mm.

DISTRIBUTION: Cosmopolitan; Bonin Is., Volcano Is., Mariana Is., Caroline Is., Marshall Is., Gilbert Is.

BONIN IS. CHICHI JIMA: Ogiura, June 1949, Mead; Omura, July 1949, Mead; Omura, "Camp Beach," May-June 1958, Snyder; Okumura, "Yankee Town," May-June 1958, Snyder and Mitchell; Miyanohama, "Jack Wm's beach," Apr. 1958, Snyder; Sakai Ura (Sakaiura), June 1949, Mead. HAHA JIMA: June-July 1949, Mead; Okimura, Apr.-May 1958, Snyder.

VOLCANO IS. IWO JIMA: Sept. 1945, Dybas; Dec. 1945, Bertram.

S. MARIANA IS. SAIPAN: Garapan, May 1940, Yasumatsu and Yoshimura; Garapan-Sadog Tasi, May 1940, Yasumatsu and Yoshimura; Exp. Sta. N. K. K., Nov. 1941, Matusita; Afenia (Afheniya), Nippon, Aug. 1941, Matusita; 1 to 2 miles east of Tanapag, Dec. 1944 and Dec. 1946, Dybas; Mt. Tagpochau, Feb. 1945, 375 m., Dybas; Sadog Talofofo area, Feb. 1945, Dybas; As Mahetog area, Nov. 1944, Dybas; Kalabera area, Apr. 1945, Dybas. TINIAN: Mar. 1945, Ellsworth Hagen; Marpo Valley, June 1946, Oakley; Mar. 1946, Hadden; June 1946, Townes; Mar. 1945, Feb. 1945, Dybas; Marpo Valley, Oct. 1945, Dybas; ridge 1 mile north of Tinian Harbor, Apr. 1945, Dybas; north of Gurgan Point, Apr. 1945, Dybas. ROTA: Son Son (Songsong), June 1946, Oakley; Rugi, June 1946, Oakley. GUAM: Pt. Oca (NAMRU2), May 1945, Gressitt; Pt. Oca, June 1945, Bohart and Gressitt; Pilgo River, July 1945, Bohart and Gressitt; Pago, May 1945, Gressitt; S.E. coast, May 1945, Bohart and Gressitt; Piti, Feb. 1938, Oakley; Piti, Sept., Nov. 1936, Swezey; Agana, May 1945, Bohart and Gressitt; Talofofo, Apr. 1946, decaying breadfruit, Oct. 1957, Krauss; Merizo, July 1937, Oakley.

PALAU. KOROR: Mar. 1938, Esaki. PELELIU: Garakayo I. (Ngergoi), Aug. 1945, Dybas.

YAP. YAP: July 1946, Oakley; Yap, Gagil I., July 1946, Oakley. MAP: July-Aug. 1950, Goss.

CAROLINE ATOLLS: ULITHI: Mog Mog I., May 1945, Young.

TRUK. WENA (Moen): Civ. Ad. Area, Mar. 1949, Potts; Aug. 1946, Oakley; north basin, Mt. Chukumong, Feb. 1949, Potts.

MARSHALL IS. ENIWETOK: Eniwetok I., Nov. 1944, Dybas; Elugelab, Jan. 1951, Oshiro; Japtan (Jobtan) I., Nov. 1944, Dybas; Japtan I., May 1946, Oakley; Japtan I., May 1946, Fosberg, No. 84; Sept. 1956, Tuthill.

GILBERT IS. TARAWA: Bairiki I., Nov. 1957, Krauss.

HOSTS: Corn,[3] banana roots, rotting papaya, small green fallen coconuts, decayed *Cycas* fruit, sap of breadfruit tree (*Artocarpus communis* Forst.), juice on cut end of sugar cane, tomato fruit, *Scaevola*, rotten cucumber, carabao hole.

Genus **Carpophilus** Stephens

Carpophilus Stephens, 1830, Illustr. Brit. Ins. **3**: 50 (type: *Dermestes hemipterus* Linnaeus).

Tribrachys Leconte, 1861, Smithsonian Misc. Coll. **3**: 83 (type: *Tribrachys caudalis* Leconte = *Carpophilus decipiens* Horn; California, Arizona, Lower California).

Body usually elongate and more or less depressed; some specimens nearly oval, others quite convex. *Head* broad but distinctly narrower than pronotum. Clypeus indistinct, slightly porrect. Eyes variable but usually large. Antennae moderately short, club compact, flattened, round or oval in outline. Antennal grooves distinct and convergent. Labrum bilobed, lobes rounded. Mandibles usually with a tooth on inner side behind apex. Lacinia broad, tip rounded, bearded on tip and inner margin. Maxillary palpi variable, terminal segment conical. Ligula with rather large laterally projecting paraglossae. Palpi stout, terminal segment somewhat thickened and truncate. Mentum transverse, emarginate in front. *Prothorax* transverse to nearly quadrate, about as wide as elytra. Scutellum rather large and usually rounded behind. *Elytra* not striate; truncate usually from suture outward and backward leaving two dorsal chitinized abdominal segments exposed. Prosternal process behind coxae depressed, widened, and rounded, reaching mesosternum. Mesocoxae and metacoxae about equally separated. Ventral abdominal segments two and three very short; one, four, and five long. Legs short, tarsi dilated. Claws simple.

Males with an additional supplementary segment, usually ventral, and fitted into excision on posterior margin of fifth ventral abdominal segment.

KEY TO MICRONESIAN SPECIES OF CARPOPHILUS

1.	Mesosternum divided into two cells by raised lines	2
	Mesosternum without cells	3
2(1).	Elytra with definite humeral and apical yellow patches on each elytron	**9. hemipterus**
	Elytra without sharply defined lighter areas	**13. obsoletus**
3(1).	Prosternum and hypomeron coarsely densely punctate; surface between punctures smooth and shining. Second antennal segment shorter than third	4
	Hypomeron almost impunctate; surface between punctures with small granules. Second antennal segment about equal in length to third	5
4(3).	Posterior tibiae of male gradually widened	**7. dimidiatus**
	Posterior tibiae of male suddenly dilated after first fourth	**15. pilosellus**
5(3).	Sides and disc of prosternum densely punctate; punctures larger and shallower toward sides	**12. mutilatus**
	Sides of prosternum almost impunctate; disc punctured anterior to process but not reaching anterior margin of prosternum	6

[3] Maize.

6(5). Axillary space of metasternum large, at least half length of episternal suture .... **11. marginellus**
Axillary space of metasternum small, about one-third length of episternal suture; narrow if longer 7
7(6). Axillary space of metasternum extending at least one-third length of episternal suture 8
Axillary space not extending more than one-sixth of length of episternal suture .... **8. frivolus**
8(7). Axillary space triangular, about one-third length of metasternal margin 9
Axillary space narrow and attenuated from anterior fourth to near midpoint .... **6. davidsoni**
9(8). Median impunctate line on prothorax reaching one-half distance from base to head, elytra with single dark spot on disc, outside of posterior tibiae armed with several stout spines near tip .... **14. oculatus**
Median impunctate line extending almost to head, elytra without dark discal spot, posterior tibiae unarmed on outside .... **10. maculatus**

6. **Carpophilus davidsoni** Dobson.

Carpophilus davidsoni Dobson, 1952, Ent. Month. Mag. **88**: 256.

Oblong, subparallel, convex, moderately punctate and pubescent, surface reticulately alutaceous, little shining, piceous to testaceous, head and prothorax darker than venter, elytra pale. *Head* rugosely punctate on occiput, front strongly coarsely punctate, punctures separated by about one diameter, punctation becoming smaller and more sparse toward clypeus, being separated there by about two diameters, frontal punctations lunate with convex sides facing away from midpoint of vertex. Antennal segments two and three about equal in length. *Prothorax* rectagular, with width to length as 1.5 to 1, sides evenly arcuate, widest at basal third, apex straight, anterior angles rounded, base evenly and shallowly sinuate, posterior angles broadly rounded, surface finely reticulate, moderately close lunate punctures separated by about one diameter on disc except for median impunctate line which extends from base to near middle of disc, convex sides of punctures facing away from this impunctate line and pubescence directed toward it. Scutellum somewhat pentagonal, strongly finely reticulate, anteriorly two-thirds punctured and pubescent, impressed on each side with a submarginal line. *Elytra* with width to length as 1.2 to 1, sides nearly parallel for most of their length then rounded to broadly truncate tips, sutural angles obtuse, distinct; surface finely reticulate, punctation more obsolete than on prothorax, becoming more sparse and finer toward tip, disc pale, sides fuscous, tips usually darker. Mentum coarsely reticulate, very obsoletely punctate. Submentum very coarsely rugosely punctate. Prosternum with disc immediately anterior to process with a few shallow, round punctures separated by about one diameter, process sparsely punctate, elsewhere nearly impunctate and transversely reticulate. Mesosternum disc with irregular shallow punctures, much coarser than those of prosternum and almost confluent; without median longitudinal or oblique carinae. Metasternum with median furrow well developed, punctures strong and separated by about two diameters, laterally punctures much larger, more dense and longitudinally oval with anterior lip deeper than posterior, surface between lateral punctures much more coarsely reticulate than on disc, axillary space impunctate, strongly reticulate, post-coxal line approaching episternum at about one-third of its length then running parallel to it and becoming obsolete at near its midpoint. Ventral abdominal segments shining, reticulate, sparsely punctate with strongly longitudinal oval punctures.

Males: Fifth segment strongly emarginate for reception of supplemental segment, an impunctate, strongly transversely alutaceous area just anterior to emargination. Length 2.5-3.5 mm.; width 1.1-1.5 mm.

DISTRIBUTION: Australia (New South Wales), Mariana Is., Caroline Is., Marshall Is., Gilbert Is.

S. MARIANA IS. SAIPAN: Mt. Tagpochau, 375 m., beating vegetation,

Jan.-Feb. 1945, Dybas; As Mahetog area, Nov. 1944 and Jan. 1945, Dybas; east of Tanapag, Nov. 1944, Dybas; Halaihai-As Teo area, Jan. 1945, Dybas; Achagau area, Dec. 1944, Dybas; Papago area, Jan. 1945, Dybas; Oleai-Hinashisu-Charanka, Nov. 1937, Esaki; Charankeja (Chalankeja), Feb. 1936, Esaki; Jan. 1945, Ellsworth Hagen. TINIAN: Mt. Lasso, northwest slope, Apr. 1945, Dybas; ridge 1 mile north of Tinian Harbor, Mar. 1945, Dybas; north of Gurgan Point, Apr. 1945, Dybas; Mar. 1945, Ellsworth Hagen. AGIGUAN: June 1952, Kondo. ROTA Is.: June 1946, Townes. GUAM: Pt. Ritidian, light trap, Aug. 1945, Gressitt; Machanao, June 1936, under bark, Swezey; Yigo, ex seed cluster of *Coccothrinax* ?, Feb. 1936, Swezey; Yigo, Oct. 1957, Krauss; Dededo, under *Pandanus* bark, Apr. 1936, Usinger; Dededo, Apr. 1948, Maehler; Oca Point, June 1945, Dybas; Pt. Oca, June 1945, Necker; Pt. Oca, Jan., May, June, July 1945, Bohart and Gressitt; Pt. Oca, near Agana, Feb.-Mar. 1945, Bohart and Gressitt; near NAMRU-2, July 1945, G. and R. Bohart and Gressitt; Asan, rotten breadfruit, Aug. 1936, Swezey; Piti, rotten breadfruit, May and Sept. 1936, Swezey; Piti Point, June 1945, Dybas; Pt. Taguan, July 1945, Gressitt and Bohart; Fadang (Fadian), May 1945, Dybas; Agat, ex corn, May 1936, Swezey; Umatac, on beach shrub, Mar. 1936, Bryan; Merizo, on moldy corn, July 1937, Oakley; on corn, June 1936, Swezey; Ajayan, in decayed fruit of breadfruit, June 1945, Dybas; Yona, Feb. 1938, Oakley.

PALAU. BABELTHUAP: Ulimang, Dec. 1947, Dybas; Ngiwal, Aug. 1951, Gressitt. ANGAUR: Oct. 1951, Gressitt.

YAP. E. MAP I.: July-Aug. 1950, Goss; Gagil Dist., July-Aug. 1950, Goss; Rul (Ruul), Sept. 1939, Esaki; Yap Is., July 1946, Oakley; S. Yap I., July-Aug. 1950, Goss; Tomil Dist., July-Aug. 1950, Goss.

CAROLINE ATOLLS. ULITHI: Mog Mog I., May 1945, F. N. Young. ETAL: Nov. 1952, Beardsley. PULO ANNA: Sept. 1952, Krauss. SOROL: Sorol I., Oct. 1952, Krauss. IFALUK: Ifaluk I., Aug. 1953, Bates. NOMWIN: Feb. 1954, Beardsley. KAPINGAMARANGI: Touhou I., on ripe banana, July 1954, Niering.

TRUK. MOEN (Wena): Mt. Tonaachau, S. Valley, papaya log, Apr. 1949, Potts; Moen, North basin, Mt. Chukumong, rotten breadfruit, Mar. 1949, Potts; Fefan, May, 1946, Oakley; Toloas (Tonoas), Erin, Apr. 1940, Yasumatsu and Yoshimura.

PONAPE. Colonia, *Pithecellobium dulcis,* Jan. 1953, Clarke; Mt. Tolotom (Dolotomw), Kili Dist., Aug. 1949, Glassman.

KUSAIE. Lelo (Lele), Dec. 1937, Esaki; Lelu (Lele), 100 m., in copra warehouse and Hermann's warehouse, Feb.-May 1953, Clarke; Mutunlik, 22 m., Feb. 1953, Clarke.

MARSHALL IS. ENIWETOK: Japtan I. (Jobtan), Sept. 1956, Tuthill;

Japtan I., May 1946, Fosberg, no. 84. WOTHO: Wotho, *Pandanus* fruit and overripe fallen breadfruit, Feb. and Mar. 1952, Fosberg, nos. 804, 839. KWAJALEIN: Bascom, Aug. 1944, Wallace. LAE: Loj, breadfruit on ground and *Pandanus* fruit, Jan. 1952, Fosberg, nos. 661, 662. JEMO: Jemo, on decaying papaya, in ripe head of *Pandanus* fruit, and at light, Dec. 1951, Fosberg, nos. 441, 457, 471. LIKIEP: Lato, in ripe head of *Pandanus* fruit, Dec. 1951, Fosberg, nos. 312-314. JALUIT: Elizabeth I., Oct. 1953, Beardsley; Jabor I., May 1958, Gressitt. ARNO: Ine I., July 1950, La Rivers; rotten fallen breadfruit, Aug. 1952, Hatheway.

GILBERT IS. TARAWA: Banraeaba, fallen *Pandanus* fruit, Dec. 1957, Krauss. ONOTOA: North I. (Tanyah), on *Pandanus* fruit on ground July 1952, Moul; Buiartun I. (Tanyah), *Pandanus* fruit July 1951, Moul.

HOSTS: *Pandanus,* in fruit and under bark, decaying breadfruit, decaying papaya, papaya log, ripe banana, in copra warehouse, corn, *Pithecellobium dulcis,* seed cluster of palm *Coccothrinax* ?, on beach shrub, beating vegetation, and at lights. The type specimens were found infesting sweet corn, figs, and peaches.

7. Carpophilus dimidiatus (Fabricius).

Nitidula dimidiatus Fabricius, 1792, Ent. Syst. **1**: 261.

Carpophilus auripilosus Wollaston, 1854, Ins. Mader., 117.

Carpophilus lewisi Reitter, 1884, Wiener Ent. Zeitung **3**: 258.

Carpophilus pusillus Stephens, 1830, Illustr. Brit. Ent., **3**: 51.

Carpophilus vittiger Murray, 1864, Linn. Soc. London, Trans. **24**: 373.

Carpophilus biguttatus Gemminger and Harold (non Motschulsky), Cat. Coleopt. **3**: 810.

Carpophilus dimidiatus, Grouvelle, 1913, Coleopt. Cat. **56**: 84, gives a long synonymy but several of these have since been raised to species status.

Oblong, convex, surface finely granular, feebly shining, sparsely pubescent; color from piceous to testaceous with elytra always paler. *Head* rather densely, coarsely punctate, clypeus much more sparsely finely punctate. Antennae with second segment distinctly shorter than third. *Prothorax* with width to length as 1.5 to 1, sides very feebly arcuate, narrowed in front, posterior angles obtuse, not prominent, surface sparsely, coarsely punctate. *Elytra* a little longer than wide together, as sparsely but much more finely punctate than pronotum. Mentum rather finely, closely punctate, interspaces alutaceous. Submentum very coarsely, strongly, rather closely punctate. Prosternum and hypomeron everywhere coarsely and densely punctate, surface between punctures smooth and shining. Mesosternum coarsely rugosely punctate, not carinate. Metasternum strongly, rather sparsely punctate on disc, becoming more shallow and coarse toward sides, interspaces lightly reticulate and shining; axillary space behind mesocoxae nearly an equilateral triangle, impunctate, reticulate, postcoxal line meeting metepisternum near its anterior third. Ventral segments rather closely, obsoletely punctate, strongly pubescent, and reticulate. Male hypopygidium strongly emarginate for reception of supplementary segment. Length 1.8-3.5 mm.; width 0.8-1.3 mm.

DISTRIBUTION: East Indies, West Indies, United States, Africa, India, Philippines, Fiji, Tonga, Mariana Is., Caroline Is., Volcano Is., Marshall Is., Wake Atoll.

VOLCANO IS. Iwo JIMA: Sept. 1945, Dybas.

S. MARIANA IS. TINIAN: Jan.-Apr. 1945, Dybas. ROTA: Rugi, June 1946, Oakley; Rota, Oct. 1945, Necker. SAIPAN: Nov. 1937, Esaki; Nov. 1944, Hagen; As Mahetog area, Nov. 1944, Dybas; Dec. 1944, Dybas; Halai-hai-As-Tao area, Feb. 1945, Dybas. GUAM: June 1945, Stuntz; 1937, Oakley; Piti, Apr., May, Sept. 1936, Swezey; Piti and Asan, breadfruit, Oct. 1936, Swezey; Asan, rotten breadfruit, Aug. 1936, Swezey; Yona, Feb. 1938, Oakley; Agat R., on *Ochrosia* fruit, June 1938, Oakley; Talofofo, Apr. 1946, Krauss; Pago, May 1945, Gressitt; Pt. Oca, May 1945, Gressitt; May 1945, Bohart and Gressitt; Mt. Santa Rosa, dead *Citrus,* May 1945, Gressitt and Bohart; 1 mile southeast of Asan, 180-240 m., Oct. 1947, Dybas; Piel, July 1937, Oakley; Agat Farm, Apr. 1938, Oakley; Agana, Dec. 1947, Maehler; Dededo, Apr. 1948, Maehler; Yigo, seed cluster of palm, Feb. 1936, Swezey.

PALAU. BABELTHUAP: Oller, May 1953, Beardsley.

MARSHALL IS. ARNO: Ine I., June 1950, La Rivers. JALUIT: Elizabeth I., Sept. 1953, Beardsley.

WAKE ATOLL. Peale I., greenhouse bench, Aug. 1940.

8. **Carpophilus frivolus** Murray.

Carpophilus frivolus Murray, 1864, Linn. Soc. London, Trans. **24**: 392.

Elongate-oblong, small, depressed, somewhat shining, finely, rather sparsely punctate, strongly reticulate, testaceous with tips of elytra dark, pubescence pale testaceous. *Head,* vertex flat, sparsely punctate in center becoming coarser and closer toward eyes and smaller toward clypeus but not fine as in many other species, surface very strongly reticulate; occiput rather coarsely punctate, smooth and shining, becoming closely punctate behind eyes. *Prothorax* transverse, with width to length as 1.7 to 1, apex straight, base slightly sinuate on each side, sides lightly arcuate, narrowed somewhat to apex, anterior and posterior angles rounded, angle itself obtuse and hardly distinguishable, disc very much depressed, sparsely finely punctate, punctures separated by at least two diameters, punctures becoming rather coarse toward sides where they are separated by less than one diameter, surface dull and very strongly reticulate. Scutellum darker, pentagonal, finely sparsely punctate in center, shining and reticulate on sides and tip. *Elytra* wider than base of prothorax with width to length as 1.2 to 1, punctation coarser, more obsolete, and sparser than on prothorax, humeral angles distinct, sides nearly parallel, a little wider toward slightly obliquely truncate apex, tip edged with short, straight, sparse setae; surface dull, strongly reticulate. Dorsal abdominal segments closely punctate, strongly reticulate. Pygidium triangular, rather closely covered with long pale pubescence. Mentum closely obsoletely punctate; submentum coarsely, very closely, not strongly punctate. Prosternum convex, finely sparsely punctate, surface transversely alutaceous. Mesosternum not carinate, closely coarsely punctate. Metasternum sparsely finely punctate, with strong dark median longitudinal line; axillary space small, not extending more than one-sixth of length of metepisternum. Ventral abdominal segments sparsely punctate, rather shining, lightly alutaceous. Hypopygidium rather closely punctate, pubescent, hairs set on small raised granules. Length 2.2 mm.; width 1 mm.

DISTRIBUTION: Australia, Palau Is.

PALAU. PELELIU: two female specimens, east coast, Aug. 1945, Dybas, under chips on recently cut stump.

9. **Carpophilus hemipterus** (Linnaeus).

Dermestes hemipterus Linnaeus, 1758, Syst. Nat., ed. 10, 358.
Silpha bimaculata Linnaeus, 1767, Syst. Nat., ed. 12, **1,2** : 569.
Nitidula flexulosa Herbst, 1790, Käf. **5** : 246.
Nitidula quadriguttata Thunberg, 1794, Ins. Suec. **5** : 70.
Nitidula quadrata Fabricius, 1798, Suppl. Ent. Syst., 74.
Nitidula cadaverina Fabricius, 1801, Syst. Eleuth. **1** : 354.
Stenus ficus Fabricius, 1801, Syst. Eleuth. **2** : 603.
Cateretes dimidiatus Heer, 1841, Fn. Helv. **1** : 413.
Cateretes pictus Heer, 1841, Fn. Helv. **1** : 413.
Carpophilus quadrisignata Erichson, 1843, IN Germar's Zeitschr. für Ent. 257.
Carpophilus brevipennis Germain, 1855, Univ. Chile, An. 397.

Oblong, feebly shining, sparsely pubescent, castanopiceus, elytra with humeral spot and large irregular apical space testaceous, beneath rufotestaceous. *Head* sparsely punctate. *Prothorax* one-third wider than long, sides very feebly arcuate, narrowing anteriorly, posterior angles obtuse, disc with a vague impression on each side near base, center moderately densely punctate, more densely toward sides. *Elytra* conjointly wider than long, more finely punctate than prothorax. Dorsal abdominal segments more finely punctate than elytra. Mentum and submentum coarsely rugosely punctate. Prosternum coarsely rugosely punctate, process punctate and carinate, its epimeron also coarsely rugosely punctate. Mesosternum coarsely rugosely punctate, disc divided into two cells by a median longitudinal carina and two carina extending diagonally from each side of tip of prosternal process to middle coxae. Metasternum sparsely strongly punctate on disc, interspaces smooth and shining, toward sides punctations becoming closer and larger with anterior margins distinct and posterior margins obsolete or lacking, interspaces obsoletely reticulate; axillary space very small, caudal rim of mesocoxae being scalloped rather than evenly arcuate as in most species. First ventral abdominal segment sparsely punctate on disc, surface between punctures smooth and shining, fourth and fifth segments rather finely sparsely punctate and strongly alutaceous. Male hypopygidium emarginate for two-thirds of its width for reception of supplementary segment, middle tibiae a little stouter than in female. Female pygidium has a faint carina. Length 2-4 mm.

DISTRIBUTION: Cosmopolitan, Mariana Is., Caroline Is., Marshall Is., Gilbert Is.

S. MARIANA IS. SAIPAN: Mt. Tagpochau, 375 m., Feb. 1945, Dybas; Achugau area, under bark, Dec. 1944, Dybas. TINIAN I.: on rotting papaya, June 1946, Townes; Mt. Lasso, northwest slope, Apr. 1945, Dybas; Marpo Valley, June 1946, Oakley.

TRUK. MOEN: Mt. Chukumong, North Basin, papaya, Feb. 1949, Potts.

MARSHALL IS. ENIWETOK: Eniwetok I., Nov. 1944, Dybas.

GILBERT IS. TARAWA: Bairiki I., Dec. 1957, Krauss.

10. **Carpophilus maculatus** Murray.

Carpophilus maculatus Murray, 1864, Linn. Soc. London, Trans. **24** : 372.

Oblong, convex, moderately punctate and pubescent, somewhat shining, piceous to testaceous, elytra and venter usually paler than head and prothorax, strongly reticulate between punctures. *Head* rugosely punctate on occiput, front strongly coarsely punctate,

punctations usually separated by more than one diameter, punctations becoming smaller and sparser on clypeal area, tentorial depressions moderate, the maculae obsolete and close to antennal bases, frontal punctations lunate with convex sides facing away from mid point of vertex. *Prothorax* rectangular, width to length as 1.4 to 1, apex straight, sides parallel, base lightly bisinuate, anterior angles nearly distinct, rounded, posterior angles broadly rounded, a narrow impunctate median line extending from base halfway to apical margin, sparse lunate punctures on disc with convex side facing away from base of impunctate line, punctation becoming closer toward apex and sides, interspaces strongly finely reticulate, pubescence rather short and pale. Scutellum pentagonal, punctate on disc, strongly reticulate on tip and sides. *Elytra* with width to length as 1.1 to 1, sides parallel to midpoint then evenly arcuate to truncate tips, sutural angles obtuse, very distinct, more sparsely punctate than disc of prothorax, pubescence a little more distinct, interspaces more strongly reticulate and less shiny, tips often dark. Pygidium triangular, strongly punctate and pubescent. Mentum strongly reticulate, nearly impunctate; submentum very coarsely, strongly, closely punctate. Prosternum strongly punctate just anterior to process, becoming obsolete and sparse toward sides and impunctate near anterior margin, which is strongly transversely reticulate, especially toward sides. Prosternal process shiny and nearly impunctate between coxae, becoming reticulate and strongly, coarsely, closely punctate on tip. Mesosternum strongly, coarsely punctate, reticulate. Metasternum strongly, rather finely, sparsely punctate, the punctures separated by two diameters, strongly reticulate, rather shiny, axillary space triangular, extending about one-third length of episternum. Ventral abdominal segments strongly reticulate, moderately punctate, becoming rather strongly punctate on fifth segment.

Males: Fifth segment strongly emarginate for reception of supplemental segment, with an alutaceous impunctate area just anterior to emargination. Length 2.2-3.8 mm.; width 0.7-1.4 mm.

DISTRIBUTION: Ceylon, Polynesia, Philippine Is., Mariana Is., Caroline Is., Marshall Is., Gilbert Is.

S. MARIANA IS. SAIPAN: Achugau area, Dec. 1944, Dybas; 1-2 miles east of Tanapag, Nov., Dec. 1944, Dybas; Halaihai-As Teo, Feb. 1945, Dybas, As Mahetog area, Jan., Mar., Nov., Dec. 1944, Dybas; Garapan, July 1939, T. Esaki; Fanagam (Mt. Fanaganan), May 1940, Yasumatsu and Yoshimura; Mt. Tagpochau, 1 mile northeast of summit, in corn meal, Dybas; USCC Farm, June 1946, Oakley; Nov. 1944, Jan. 1945, Ellsworth Hagen; As Lito-I Fadang, Dec. 1944, Dybas. TINIAN: Tenian I. (Tinian), Lasso, Mar. 1946, Hadden; Tinian, Mar. 1945, Ellsworth Hagen; Mt. Lasso, northwest slope, at light, Apr.-May 1945, Dybas; north of Gurgan Point, Apr. 1945, Dybas. ROTA: Sosan (Songsong) Isthmus, Oct. 1945, Necker; Rota, June 1946, Townes. GUAM: Guam, Fullaway; Guam, June 1945, Stuntz; Yigo, ex dead papaya leaves and seed cluster of *Coccothrinax* palm ?, Feb. 1936, Swezey; Dededo, *Pandanus,* under bark, May 1936, Usinger; Oca Point, June 1945, Necker; Pt. Oca, NAMRU 2, May 1945, Gressitt; Pt. Oca, light trap, at rotted male Sago palm, Mar., May, June 1945, Bohart and Gressitt; light trap, July 1945, Bohart and Gressitt; Asan, rotting breadfruit, Aug. 1936, Swezey; Piti, rotten breadfruit, May 1936, Swezey, *Pithecellobium,* Usinger; Piti, July 1937, Oakley; Agat, corn ear, May 1936, Swezey; Mt. Alifan, Apr. 1946, Krauss; Umatac, on beach shrub, Mar. 1936, Bryan; Merizo, on corn, June 1936, Swezey.

PALAU. ANGAUR: Feb. 1948, Dybas. PELELIU: east coast, Aug. 1945, Dybas. GARAKAYO (Ngergoi): Aug. 1945, Dybas.

YAP. MAP I.: North, July-Aug. 1950, Goss. Gagil Dist., July-Aug. 1950, Goss. Tomil Dist., July-Aug. 1950, Goss. YAP I.: July-Aug. 1950, Goss, Yap I., July 1946, Oakley; Rul (Ruul), Sept. 1939, Esaki.

CAROLINE ATOLLS. PULO ANNA: Sept. 1952, Krauss. ULITHI: Potangeras Islet, Nov. 1947, Dybas; Mog Mog I., May 1945, F. N. Young. SOROL: Sorol I., Oct. 1952, Krauss. WOLEAI: Oleai, Falulap, Jan. 1938, Esaki. FARAULEP: Pigue I., Sept. 1952, Krauss. IFALUK: Ifaluk I., Aug. 1953, Bates. LAMOTREK: Lamotrek I., Sept. 1952, Krauss. LOSAP: Losap, Oct. 1952, Beardsley. KAPINGAMARANGI: Touhou I., on ripe banana, July 1954, Niering.

TRUK. TOL (Ton): Mt. Unibot, 32 m., light trap and under bark of dead *Artocarpus,* Dec. 1952, Gressitt. MOEN (Wena): S. valley Mt. Tonaachau, papaya log, Apr. 1949, Potts. FEFAN I.: May 1946, Oakley; Toloas (Tonoas); Erin, Apr. 1940, Yasumatsu and Yoshimura.

PONAPE. Colonia, Agric. Exper. Sta., 16 m., dead toad and at light trap, Jan. 1953, Gressitt; Colonia, *Pithecellobium dulcis,* Jan. 1953, Clarke; Colonia, Agric. Exper. Sta., June-Sept. 1950, Adams; Mt. Tamatamansakir (Temwetemwensekir), light trap, Jan. 1953, Gressitt; Reitao (Lehdau), Ona-U, July 1939, Esaki.

KUSAIE. LELU (Lele) I.: 100 m., Hermann's warehouse, Apr. 1953, Clarke; Lelo (Lele), Dec. 1937, Esaki; Mutunlik, 22 m., Mar. 1953, Clarke; Mt. Tafeyat, 240-360 m., Aug. 1946, Townes; Mt. Tafeyat, rotting breadfruit, Feb. 1953, Clarke; Matanlug, light trap, Jan. 1953, Gressitt.

MARSHALL IS. WOTHO: Wotho, *Pandanus* fruit, Feb. 1952, Fosberg. LAE: Loj, in breadfruit on ground, Jan. 1952, Fosberg; Lae, on *Pandanus* fruit, Jan. 1952, Fosberg. KWAJALEIN: North Gugegwe, Aug. 1944, Bryan. LIKIEP: Lato, in ripe head of *Pandanus* fruit, Dec. 1951, Fosberg. JEMO: Jemo, on ripe *Pandanus* fruit, Dec. 1951, Fosberg. JALUIT: Jaluit I.,AEC sheet, Apr. 1958, Gressitt; Jabor I., AEC sheet, Apr. 1958, Gressitt. ARNO: Ine I., July 1950, La Rivers.

GILBERT IS. TARAWA: Banraeaba, fallen *Pandanus* fruit, Dec. 1957, Krauss. ONOTOA: Buiartun (Tanyah) I., *Pandanus* fruit, July 1951, Moul; North (Tanyah) I., on *Pandanus* fruit on ground, July 1952, Moul.

HOSTS: Copra, corn meal, corn ear, rotten breadfruit, *Pithecellobium dulcis,* under bark of dead *Artocarpus, Pandanus* on fruit and under bark, papaya log, on dead papaya leaves, seed clusters of palm, on ripe banana, at light, on beach shrub.

11. Carpophilus marginellus Motschulsky.

Carpophilus marginellus Motschulsky, 1858, Études Ent. **7**: 262.
Carpophilus nitens Fall, 1910, Am. Ent. Soc., Trans. **36**: 125.

Oblong-ovate, somewhat convex, shining, almost glabrous, piceous brown, beneath paler. *Head* moderately punctate. *Prothorax* with width to length as 1.5 to 1, sides subparallel basally, arcuately narrowed in front, posterior angles well defined, slightly obtuse, anterior angles nearly rectangular, apex emarginate, base truncate, surface coarsely, sparsely punctate with a basal median impunctate line, surface shining and, under high magnification, obsoletely reticulate. Scutellum transverse pentangular, apical half impunctate, a marginal line on each side nearly reaching to angle. *Elytra* as wide as prothorax and continuous with it, width to length as 1.1 to 1, a little more finely punctate than pronotum but punctures becoming obsolete at apices, sides nearly parallel, apex obliquely truncate, exterior angles rounded, sutural angles distinct, obtuse. Mentum coarsely rugosely punctate; submentum coarsely closely punctate. Prosternum closely coarsely punctate with shallow punctures. Epimeron more sparsely and more finely punctate. Mesosternum coarsely, shallowly, closely punctate, not carinate. Metasternum sparsely, rather finely, punctate on disc becoming closely coarsely punctate toward sides; axillary space large, extending more than half the length of epimeron, punctate as sides of metasternum. Abdominal segments shallowly set with longitudinally oval punctures, rather strongly pubescent; hypopygidium set with setiferous granules separated by about two diameters. Males with hypopygidium hardly emarginate for supplementary segment which is almost visible from above. Length 2.2-3.8 mm.; width 1.0-1.6 mm.

DISTRIBUTION: United States, West Africa, Madagascar, Ceylon, East Indies, Hongkong, Japan, Bonin Is., Caroline Is., Marshall Is.

BONIN IS. CHICHI JIMA: Omura, "Camp beach," May-June 1958, Snyder.

TRUK. WENA (Moen): Aug. 1946, Oakley. TOL I.: Mt. Unibot (foot), Berlese funnel, breadfruit compost, Jan. 1953, Gressitt.

MARSHALL IS. ENIWETOK: Japtan I., May 1946, Fosberg, no. 84.

12. **Carpophilus mutilatus** Erichson.

Carpophilus mutilatus Erichson, 1843, IN Germar's Zeitschr. für Ent. **4**: 258. Synonymized by Grouvelle, 1913, Coleopt. Cat., 85. Redescribed by Dobson, 1954, Bull. Ent. Research **45** (2): 397.

Subparallel, moderately convex, dark to pale ferrugineus brown, moderately shining. Elytra usually paler than remainder except for suture, apex, sides and sometimes scutellar region dark. Pronotum usually darker on midline than at sides. Dorsal surface with moderate recumbent to suberect pubescence which is golden except at apical sides of elytra where it is black. *Head* strongly punctate, occipital punctures round, almost contiguous, smaller than on vertex where they equal two eye facets, variolose and one diameter apart becoming small, round and sparse on clypeal area. Antennae with second segment as long as third. *Pronotum* transverse with length to width as 1 to 1.5, widest just before basal angles; apex truncate, angles evenly rounded, not prominent; base shallowly bisinuate, angles obtuse; surface strongly alutaceous and punctate except for a variable median line; discal punctures variolose, a little larger than eye facets and separated by slightly more than one diameter becoming closer and coarser toward sides; emarginated lip of punctures directed toward margin of pronotum and away from a point on midline at basal fourth, pubescence is directed toward this point. Scutellum alutaceous, anterior half strongly punctate and with a lateral impressed line. *Elytra* subparallel, broadest at apical third, as wide as base of prothorax; suture from scutellum to apex about equal in length to pronotum; punctures near scutellum round to irregular, equal to those at sides of prothorax, toward sides and apex much smaller and over two diameters apart, interspaces coarsely alutaceous. Gula between antennal grooves with round shallow punctures twice as large as eye facets and very close together, behind antennal grooves impunctate, smooth, and shining. Prosternum, margins of process between coxae strongly raised, together account-

ing for more than half its width, its surface punctate, moderately convex but not carinate; disc with deep, round to irregular punctures which are coarser than eye facets and less than one diameter apart; laterally punctures are larger and shallower, surface smooth and shining between punctures. Hypomeron impunctate but with raised granules about as large as eye facets and more than one diameter apart, surface between granules alutaceous. Mesosternum discal punctures round, coarser than those on prosternal disc and very dense, toward sides becoming obsolete and lateral third is impunctate, a variable, median impunctate strip sometimes appears slightly carinate. Metasternum discal punctures equal to or slightly larger than eye facets and separated by almost two diameters, lateral punctures larger, longitudinally elongated and deeper at apex than at base; caudal marginal line of mesocoxal cavity parallel to cavity along its mesal two-thirds and then diverging posteriorly to meet metepisternum near its midpoint, axillary space impunctate, reticulate. *Abdomen:* Dorsal and ventral surfaces reticulately alutaceous; discal punctures of first sternite round, much smaller than those of metasternal disc, separated by about two diameters, behind posterior coxae surface impunctate but granular; hypopygidium evenly curved apically, and with setiferous granules anterior to indistinct oval punctures; pygidium flattened, slightly emarginate at sides and apex evenly rounded.

Male: Externally similar to female but with median portion of last sternite emarginate to half its length to accommodate supplementary segment. Prothorax sides more parallel than in female. Length 2.3-3.3 mm.; width 0.9-1.5 mm.

DISTRIBUTION: Iraq, Philippine Is., Mariana Is., Caroline Is., Marshall Is.

S. MARIANA IS. SAIPAN: USCC farm, June 1946, Oakley. GUAM: Piti, July 1937, Oakley; Yona, Feb. 1938, Oakley; Pt. Oca, Agana, Mt. Santa Rosa, NAMRU, May-June 1945, Gressitt and Bohart; Santa Rosa, Oct. 1957, Krauss; Pt. Oca and Piti Pt., in decaying *Pandanus* fruit, in dead *Cycas* stem, and in staminate strobilus of *Cycas,* June 1945, Dybas; Guam, June 1945, Stuntz; Merizo, Oct. 1957, Krauss; Yigo, on corn and palm seed clusters, Nov. 1936, Swezey; Asan, in rotten breadfruit, Aug. 1936, Swezey.

PONAPE. Colonia, Jan. 1953, Clarke.

KUSAIE. Mutunlik, 22 m., Mar. 1953, Clarke.

MARSHALL IS. ENIWETOK: Japtan Is., Nov. 1944, Dybas. JEMO: Jemo I., on decaying papaya, Dec. 1951, Fosberg.

This species is close to *C. dimidiatus* Fabricius, from which Dobson separates it by the comparative lengths of the second and third antennal segments and by the sculpture on the prohypomeron. I have included Dobson's detailed description almost verbatim as I have little to add.

13. **Carpophilus obsoletus** Erichson.

Carpophilus obsoletus Erichson, 1843, IN Germar's Zeitschr. für Ent. **4**: 259.

Carpophilus cribellatus Motschulsky, 1858, Études Ent. **7**: 41.

Carpophilus strigipennis Motschulsky, 1858, Études Ent. **7**: 41.

Carpophilus funereus Reitter (non Murray), 1884, Wiener Ent. Zeitung **3**: 259.

Oblong oval, convex, sparsely covered with long cinerous, rarely testaceous, pubescence; occasionally all black above, or piceous, usually black with elytra dark piceous and humeral callus pale. Antennae and legs fuscous, legs often becoming testaceous toward

extremities; antennal club piceous. *Head* densely, rather coarsely punctate, becoming finer and more sparse on clypeal area, interspaces finely reticulate. *Prothorax* with width to length as 1.5 to 1, apex very feebly emarginate, sides feebly arcuate, a little narrowed apically, anterior angles obtusely rounded, posterior angles nearly rectangular but with point broadly rounded, center of disc strongly, rather finely, sparsely punctate, becoming coarsely rugosely punctate toward sides, a basal impunctate prescutellar line extending to middle of prothorax, spaces between punctures shining but finely reticulate, a fovea near posterior angles, base sinuate near angles. Scutellum transverse, distinctly pentagonal, strongly closely punctate on base, apical portion impunctate and smooth. *Elytra* conjointly with width to length as 1.3 to 1, a little longer than pronotum, thickly punctate on disc, punctures becoming obsolete apically and rugose at margin. Pygidium subacuminate at apex. Mentum closely coarsely punctate. Submentum between antennal grooves sparsely punctured with longitudinally elongate deep punctations, interspaces shining, very faintly alutaceous; behind eyes and beyond antennal grooves punctations become close and circular. Prosternum strongly sparsely punctate on disc, becoming coarser, closer, and more obsolete toward sides, interspaces shining and obsoletely reticulate; process rather carinate; epimeron rugosely punctate, strongly reticulate. Mesosternum divided into two cells by a median longitudinal carina and two carinae extending diagonally from each side of tip of prosternum to mesocoxae. Metasternum strongly sparsely punctate on disc becoming rugosely punctate toward sides and near mesosternum; axillary space very small, not reaching beyond caudal rim of mesocoxae. First abdominal segment rather sparsely punctate. Fourth and fifth segments closely coarsely punctate, anterior margins of punctures very deep while posterior margins are obsolete or completely lacking, surface even inside of punctures strongly reticulate. Males with hypopygidium emarginate for nearly half its length for reception of supplementary segment. Length 2.1-4.0 mm.; width 1.1-1.7 mm.

DISTRIBUTION: United States, West Indies, South America, Egypt, West Africa, Madagascar, Ceylon, Malaya, Philippines, China, Japan, W. Caroline Is.

PALAU. KOROR: March 1936, one specimen, Esaki.

14. **Carpophilus oculatus** Murray.

Carpophilus oculatus Murray, 1864, Linn. Soc. London, Trans. **24**: 374 and 397. (Type from Borabora, Society Islands, a unicate in the Copenhagen Museum).

Oblong, convex, moderately punctate and pubescent, somewhat shining, dark chestnut brown to light brown, very finely reticulate. *Head* rugosely punctate on occiput, front coarsely closely punctate, becoming rather finely and sparsely punctate on clypeal area, tentorial pits small dark areas not much depressed, frontal punctations lunate with convex sides facing away from midpoint of vertex, that is, outward and forward toward bases of antennae. Antennae with third segment very slender and as long as second, four to eight short quadrate, club compact, oval, only slightly longer than wide. *Prothorax* rectangular, with width to length as 1.3 to 1, apex straight, sides parallel, base bisinuate, anterior angles rounded, posterior angles broadly rounded, discal area dark, sides and anterior portion paler, an impunctate median line extending from posterior margin nearly to apical margin, closely lunately punctate with convex sides facing away from base of impunctate median line, interspaces finely reticulate, pubescence pale and sparse. Scutellum pentagonal, punctate, finely reticulate. *Elytra* with width equal to length, sides nearly parallel for most of their length, rounded to truncate tips, sutural angles distinct, obtuse, pale except on tips and a single large dark circular spot on each elytron, more closely punctate, more strongly pubescent, and more strongly reticulate than prothorax. Dorsal abdominal segments strongly pubescent. Mentum moderately punctate. Submentum very coarsely rugosely punctate. Prosternum sparsely obsoletely punctate, transversely alutaceous at middle, becoming finely reticulate toward sides, process strongly punctate anteriorly, becoming impunctate

and shining behind coxae. Mesosternum alutaceous. Metasternum strongly sparsely punctate, interspace reticulate, strongly shining, axillary space small, not extending more than one-sixth of length of epimeron. Abdominal segments finely sparsely punctate and pubescent.

Males: Fifth segment strongly pubescent, emarginate for reception of supplemental segment, with a semicircular, impunctate, strongly, transversely alutaceous area just anterior to emargination. Length 2.5-3.8 mm.; width 1.0-1.5 mm.

DISTRIBUTION: Society Is. (Borabora), Mariana Is., Caroline Is., Marshall Is.

S. MARIANA IS. SAIPAN: Garapan-Sadog-Tasi, May 1940, Yasumatsu and Yoshimura.

TRUK. WENA (Moen): May 1946, Oakley; Mt. Chukumong, N. Basin, Mar. 1949, Potts; May 1946, Townes. FEFAN: May 1946, Oakley. NAMA: Feb. 1949, Potts.

PONAPE. Colonia, Jan. 1953, Clarke; Colonia-Jokaji (Sokehs Dist.), Nov. 1937, Esaki; Mt. Tamatamansakir (Mt. Temwetemwensekir), 180 m., Jan. 1953, Gressitt; Agric. Exper. Sta., June-Sept. 1950, Adams.

KUSAIE. Mt. Tafeayat, 518 m., Feb. 1953, Clarke; Lele I., Aug. 1946, Oakley; Kusaie Hill 541, 165 m., Mar. 1953, Clarke.

MARSHALL IS. LIKIEP: Lato I., ripe *Pandanus* fruit, Dec. 1951, Fosberg.

HOSTS: Rotten breadfruit, fruit of larger ginger, *Pithecellobium dulcis,* beating, in ripe head of *Pandanus* fruit.

15. Carpophilus pilosellus Motschulsky (fig. 7).

Carpophilus pilosellus Motschulsky, 1758, Études Ent., **7**: 41.

Carpophilus floridanus Fall, 1910, Am. Ent. Soc., Trans. **36**: 122.

Oblong, convex, surface obsoletely finely reticulate, feebly shining, covered with long, testaceous, recumbent pubescence; color varying from dark to pale reddish brown; elytra as dark as prothorax, venter a little paler than dorsum. *Head* strongly sparsely pubescent, punctures on vertex separated by about one diameter, punctures becoming finer on clypeal area, indented sides of punctures directed away from center of vertex, occiput very closely coarsely covered with deep circular punctures, interspaces shining and obsoletely finely reticulate; anterior tentorial pits depressed, distinct, dark, transverse marks set close to bases of antennae. Antennae with second segment distinctly shorter than third. *Prothorax* with width to length as 1.5 to 1, sides feebly arcuate, apex little narrower than base, truncate, anterior angles obtuse, rounded, posterior angles broadly rounded, base evenly arcuate, punctation on disc same as on vertex of head, becoming coarser and closer toward sides, indented margins of punctures directed away from an obsolete, short, impunctate, prescutellar line, pubescence directed toward this place, surface between punctures obsoletely reticulate on disc, becoming distinctly reticulate toward sides; sides ciliate. Scutellum pentagonal, angles broadly rounded, strongly punctate on base, impunctate and distinctly reticulate on apex. *Elytra* strongly closely punctate near base, becoming gradually finer and more sparse toward tips where they are separated by nearly two diameters, interspaces strongly reticulate; sides and tips distinctly fimbriate. Pygidium and exposed dorsal abdominal segment closely set with large, shallow, longitudinally oval punctures bearing long, pale, recumbent setae, interspaces reticulate. Mentum moderately closely punctate, interspaces reticulate. Submentum between antennal grooves closely, rather coarsely, punctate, interspaces reticulate, beyond antennal grooves rugosely punctate. Prosternum

strongly, rather finely, sparsely punctate on disc, becoming coarser and closer along process and toward sides, interspaces smooth and shining; hypomeron obsoletely punctate, reticulate. Mesosternum coarsely, closely, strongly punctate. Metasternum finely sparsely punctate on disc with interspaces smooth and shining, becoming closer, coarser, and more obsolete toward sides with interspaces becoming reticulate; axillary space triangular, impunctate, reticulate, extending about one-fourth length of epimeron. Abdomen with first segment sparsely finely punctate in middle, interspaces smooth and shining; other segments closely finely punctate and covered with long pale pubescence, strongly reticulate between punctures. Male with hypopygidium lightly emarginate for reception of supplementary segment, emargination not deeper than one-fifth of length of this segment. Posterior tibiae of male slender for about one-fourth to one-third of length then suddenly dilated with distal half three times as broad as basal portion. Length 1.8-2.9 mm.; width 0.8-1.0 mm.

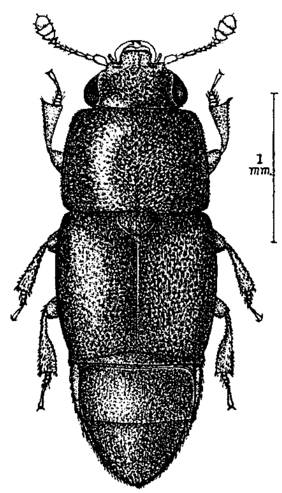


FIGURE 7.—*Carpophilus pilosellus,* male, Onotoa Atoll, length 2.9 mm.

DISTRIBUTION: China, Japan, Madagascar, East Indies, Celebes, Micronesia.

BONIN IS. CHICHI JIMA: Omura, "Camp beach," May-June 1958, Snyder.

S. MARIANA IS. SAIPAN: Papago area, Jan. 1945, Dybas; Mt. Tagpochau, 375 m., Feb. 1945, Dybas; As Mahetog area, Nov. 1944, Dybas; Sadog Talofofo, Talofofo area, Mar. 1945, Dybas; As Lito-I Fadang, Dec. 1944, Dybas; Achagau area, Jan. 1945, Dybas. TINIAN: beach cave south of Gurgan Point, May 1945, Dybas. ROTA: Rugi, June 1946, Oakley. GUAM: Southeast coast, May 1945, Bohart and Gressitt; NAMRU, May 1945, Bohart and Gressitt; Agana, July 1945, Wallace; Pt. Oca, May 1945, Dybas.

PALAU. KAYANGEL: Ngajangel (Ngaiangl), Dec. 1952, Gressitt. KOROR: Koror, Dec. 1952, Beardsley.

YAP. YAP I.: Ruul Dist., July-Aug. 1950, Goss.

CAROLINE ATOLLS. KAPINGAMARANGI: Touhou I., in ripe banana, July 1954, Niering. IFALUK: Aug. 1953, Bates.

KUSAIE. Matanluk, Jan. 1953, Gressitt.

MARSHALL IS. ENIWETOK: Eniwetok I., Nov. 1944, Dybas, Edgar. JALUIT: Elizabeth I., Sept. 1953, Beardsley.

GILBERT IS. ONOTOA: Buiartun I., Aug. 1951, Moul; North I., July, Aug. 1951.

HOSTS: Ripe banana, copra, chicken feed, decaying coconut, leaf litter, dodder-like plant, sweeping, in spider web in house, in chocolate bar from Hawaii.

Closely allied to *Carpophilus dimidiatus* Fabricius, this species has never been adequately described, and Grouvelle (1908) had some doubts about retaining the species. Dr. Sadanari Hisamatsu, in unpublished correspondence, pointed out to me that this species has the posterior tibiae of the male dilated as in *C. floridanus* Fall from which he was unable to separate it. Among specimens of *C. pilosellus* Motschulsky from the British Museum, which I examined was one labeled "Type, Murr., *pilosellus*." These agree in all particulars with *C. floridanus* Fall and I believe these species to be the same.

Genus **Haptognathus** Gillogly, new genus

Body small, oval, little convex, nearly glabrous. *Head* strongly transverse. Eyes moderate, front not lobed over insertion of antennae. Antennae elongate, longest in males, club compact. Mandibles prognathous, especially in the males. Maxillary palpi filiform, first segment very small, second long and subclavate, third cylindrical, as long as second, fourth very slender, about one and one-half times as long as third. Lacinia slender with large spur near base in two species. Paraglossae lobes large and membranous. Labial palpi rather slender. Mentum strongly transverse, emarginate anteriorly. Antennal grooves not defined. *Pronotum* transverse, nearly as wide as elytra, sides narrowly explanate, posterior edge not margined. Scutellum triangular. *Elytra* not at all explanate on sides, tips truncate exposing triangular pygidium and more or less of penultimate segment. Fimbriae distinct on penultimate segment. Supplementary segment of males terminal and visible from above. Prosternal process projecting behind coxae, not depressed. Anterior coxae slightly closer together than mesocoxae, and nearly one-half as far apart as metacoxae. Metasternum without axillary space. No post coxal line on first abdominal segment. First abdominal segment longest, second and third short, fourth somewhat longer than second and third together, fifth longer than fourth. Femora somewhat canaliculate. Anterior tibiae finely denticulate, others simple, all with terminal spurs. Tarsi feebly lobed, thickly felted beneath with long spatulate hairs which give the appearance of strongly dilated tarsi. Claws simple.

Genotype: *Haptognathus pacificus* Gillogly, new species.

I place this genus in the Meligethinae near to *Mystrops* because of the simple margin of the middle and hind tibiae, the sexual dimorphism of the filiform antennae, and the tips of the tibiae which are rather obliquely truncate or rounded on the outer angle. Superficially this genus resembles *Haptoncus* but the projecting mandibles and the filiform labial palpi distinguish it from that genus in which these palpi are strongly clavate and truncate.

The sensillum ampulaceum found in the terminal segment of the antennae in *Carpophilus* (Carpophilinae) and *Haptoncus* (Nitidulinae) (Gillogly 1947) also occurs here in the Meligethinae. The spur on the inner margin of the lacinia in *Haptognathus pacificus* and *H. nitidus* indicates an affinity to *Cillaeus, Ithyphenes,* and *Eumystrops.* The sexual dimorphism of the rather filiform antennae and the filiform palpi suggest *Mystrops,* from which it differs in having rather broad fimbriae on the penultimate dorsal abdominal segment. *Haptognathus* must be very close to *Amystrops* which Grouvelle states is close to *Mystrops, Carpophilus, Haptoncus, Psilotus,* and *Platychora.* In *Amystrops* the prosternal process is elongated, posterior coxae are distant from each other, and tarsi are dilated, while in *Haptognathus* the prosternal process is not prolonged, all coxae are about equally far apart, and the tarsi are feebly lobed.

Murray (1864) might have been considering this genus when he wrote of the Nitidulidae, "The affinities which we find constantly appearing in unexpected places, and the gradual shading off which we see in others, show that this whole group is a perfect network of relationships, and that, with a few exceptional breaks, the boundaries of the genera, or subsections into which for convenience's sake we divide them, have no real existence."

Key to Species of Haptognathus

1. Prothorax surface smooth and shiny 2
   Prothorax surface finely reticulate 3

2(1). Mandibles of males longer than head and without basal tooth .... **18. pacificus**
   Mandibles of males shorter than head and with a strong basal tooth .... **17. nitidus**

3(1). Prothorax sides strongly arcuate, base much narrower than middle .... **16. minutus**
   Prothorax sides arcuate, narrowed anteriorly, base hardly narrower than middle .... **19. reticulatus**

16. **Haptognathus minutus** Gillogly, n. sp. (fig. 8, *a*).

Oval, rather convex, feebly shining, finely sparsely punctate, finely reticulate between punctures, inconspicuously pubescent, body dark testaceous, elytra paler. *Head* closely, moderately coarsely punctate on front, becoming fine and sparse on clypeal area, strongly reticulate between punctures, tentorial pits hardly evident; occiput impunctate, obsoletely reticulate. Antennae reaching nearly to mesosternum, first segment large and swollen, second clavate, third slender and a little longer than second, fourth shorter than fifth, fifth shorter than third, six to eight quadrate, becoming gradually wider, club large, elongate oval, closely finely pubescent, terminal segment longest, with cone-shaped tip. Mouthparts: Labrum deeply bilobed, tips rounded; mandibles alike in both sexes, with slender sharp tip and a single strong, basal tooth, outer margin thickened, carinate, strongly arcuate, in closed position labrum is enclosed and does not reach as far as tooth, these teeth meet and tips overlap considerably; maxilla with lacinia long and narrow, bearded on inner margin for most of its length, basally setae are stiff and comb-like, becoming long and hair-like only near tip, palpus much longer than lacinia, first article short and quadrate, second and third twice as long as wide, third and fourth articles extending beyond lacinia; labium with palpi slender, terminal segment extending beyond paraglossae, which are truncate on tip with outer edges prolonged forward and pointed; mentum trapezoidal, tip bi-emarginate, pointed at center. *Prothorax* transverse with width to length as 1.7 to 1,

anterior lightly emarginate, sides strongly, evenly arcuate, narrowed to both apex and base, very narrowly reflexed, widest a little behind midpoint, anterior angles broadly rounded, posterior angles obtuse, base straight in front of scutellum and bisinuate on each side, disc somewhat flattened, sparsely moderately punctate, pubescence short and pale. Scutellum large, triangular, punctation closer and finer than on disc of prothorax, interspaces reticulate. *Elytra* conjointly as wide as long, more sparsely punctate than disc of prothorax, punctures separated by nearly three diameters, sides evenly arcuate, not at all explanate, tips lightly truncate, external angles broadly rounded, tip finely remotely serrate near obtuse retracted sutural angle. Pygidium triangular, moderately punctate, strongly reticulate, pubescence much longer than on prothorax and elytra, becoming very long on tip and edges so that abdomen ends in a pointed brush of setae. Fimbriae on penultimate segment distinct on sides, becoming obsolete on center one-third. Mentum sparsely punctate, strongly reticulate. Submentum impunctate, smooth. Prosternum rather convex, nearly

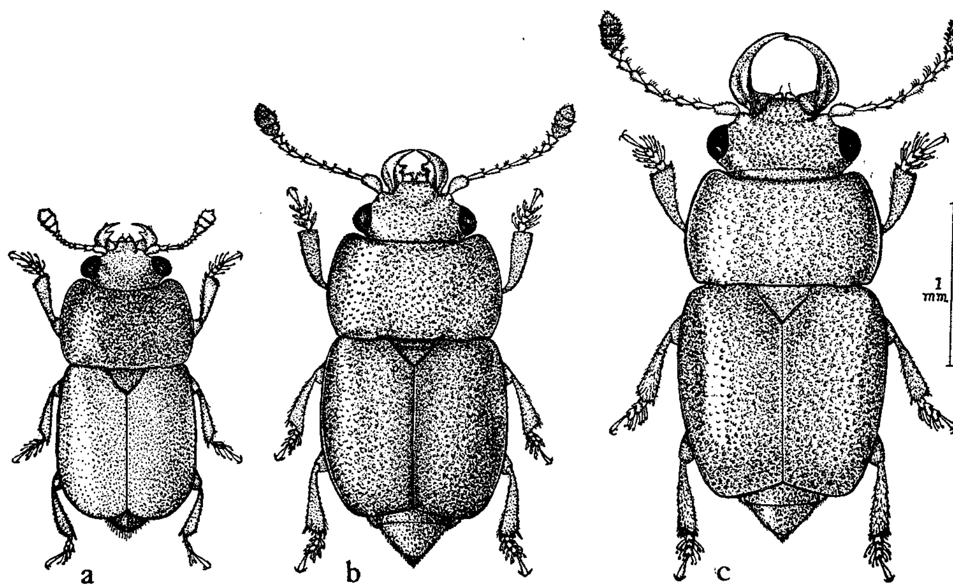


FIGURE 8.—**a**, *Haptognathus minutus,* holotype, male, length 1.8 mm.; **b**, *H. nitidus,* holotype, male, length 2.4 mm.; **c**, *H. pacificus,* holotype, male, length 3 mm.; all drawn to same scale.

impunctate, reticulate; process lightly carinate and somewhat expanded behind coxae, tip strongly deflexed, thickened but not presenting a vertical face to mesosternum. Mesosternum strongly depressed below metasternum. Metasternum sparsely, very finely punctate, transversely alutaceous; axillary space barely indicated, pubescence short and pale. First ventral abdominal segment considerably longer than next three, second and third short, fourth longer, pubescence very short and sparse except on hypopygidium where hairs become long and dense. Legs pale, tibiae slender, tarsi not dilated but each bearing long spatulate hairs.

Males with pygidium truncate, supplementary segment triangular and visible from above. Length 1.6-1.9 mm.; width 0.8-0.9 mm.

Holotype, male (BISHOP 3171), Piti, Guam, ex *Leucaena* flowers, Sept. 21, 1936, Swezey; allotype, female (BISHOP), Piti, Guam, *Glochidion,* Sept.

21, 1936, Swezey. Eleven paratypes; Guam: one, Piti, swept from bamboo, Oct. 29, 1936, Swezey; six, Barrigada, Oct. 1957, Krauss; two, Pt. Ritidian, light trap, Aug. 1, 1945, Gressitt; two, Pt. Oca, at light, May 30 and June 1945, G. Bohart and Gressitt; one paratype (CM), Saipan, Papago area, in *Pandanus* blossom, May 7, 1945, Dybas.

DISTRIBUTION: Mariana Is.

HOSTS: *Leucaena* flowers, *Pandanus* blossom, *Glochidion,* bamboo, light trap.

For some time I hesitated to separate this species from *Haptognathus reticulatus,* feeling that it might be but a local variety. The contrast between the pale testaceous elytra and the much darker color of the prothorax in *H. minutus* makes it easy to separate typical specimens. Pale specimens of *H. minutus* may be recognized by the strongly arcuate sides of the prothorax which cause the posterior angles to be retracted considerably more than in *H. reticulatus* where the base is very little narrowed from the widest portion. In both species the tips of the elytra are remotely serrate near the sutural angle but in *H. minutus* the suture is much shorter than the elytra and the tip is considerably rounded to the angle, while in *H. reticulatus* the angle itself is little retracted from the truncate tip. The forked tips of the male mandibles of *H. reticulatus* are easily distinguished from the simple slender mandible tips of *H. minutus.*

17. Haptognathus nitidus Gillogly, n. sp. (fig. 8, *b*).

Body oval, very small, rather convex, strongly punctate, nearly glabrous, surface shining, testaceous. *Head* very transverse, eyes prominent, occupying whole side of head, temples absent. Front not lobed over insertion of antennae. Antennae elongate, scape large and swollen, segments 2 to 6 slender, fourth segment shortest, club compact oval. Mouthparts: Labrum deeply bilobed, truncate on tip with angles rounded; mandibles of males projecting considerably beyond labrum, strongly bowed, strongly convex, a single tooth considerably back from tip; maxillary palpi filiform, first segment very small, second longer and subclavate, third cylindrical, equal in length to second, fourth more slender and 1.5 times as long as third; lacinia slender, heavily bearded, a large spur near base at beginning of beard; paraglossae of labium with large, rounded, membraneous lobes; palpi slender; mentum transverse, angular, with six sides, emarginate anteriorly, sparsely punctate, surface smooth; submentum smooth, very sparsely, strongly punctate. Antennal grooves very short, somewhat convergent. *Prothorax* transverse, twice as wide as long, apex truncate, hardly emarginate, sides very narrowly reflexed, evenly arcuate, widest near middle, anterior angles obtuse, rounded, posterior angles distinct but obtuse, base narrowly margined, sinuate near angles, punctation rather sparse, distinct. Scutellum broadly triangular, punctation sparse and quite obsolete. *Elytra* a little shorter than wide together, sides very narrowly reflexed, slightly bowed, tips truncate with outer angles rounded, sutural angles distinct, obtuse. Portions of two dorsal abdominal segments exposed, penultimate segment with broad fimbriae, punctation strong, more sparse than on prothorax; pygidium triangular, covered with straight stiff pubescence, closely, coarsely, strongly punctate. Prosternum very sparsely and finely punctate, surface smooth, shiny; process margined on each side between but not behind coxae, profile of prosternum and prosternal process nearly straight, face of tip deflexed to meet slope of mesosternum. Mesosternum flat and smooth. Metasternum sparsely punctate, disc obsoletely alutaceous, becoming coarser but fainter toward sides, pubescence short, pale, inconspicuous; axillary

space very small. Ventral abdominal segments each with transverse row of strong punctures near posterior margin; hypopygidium clothed with rather long pale pubescence. Femurs canaliculate. Anterior tibiae with finely denticulate outer margin, other tibiae margined with stiff setae.

Male: Supplementary segment terminal, visible from above; mandibles much more projecting than in female, about as long as head; antennae elongate, reaching nearly to base of prothorax. Length 1.8-2.4 mm.; width 0.9-1.2 mm.

Holotype, male (CM), Sosan Isthmus, Rota I., Marianas, Oct. 19, 1945, Necker; allotype, female (BISHOP 3172), Pt. Ritidian, Guam, seventeen paratypes, light trap, Aug. 1, 1945, Gressitt.

Paratypes: As Mahetog area, at light, May 1945, Dybas; Pt. Oca, May 19, July 16, 1945, G. Bohart and Gressitt; Pt. Ritidian, July 1945, Bohart and Gressitt; Mt. Bolanos, Aug. 1952, Krauss. Dugor, July-Aug. 1950, Goss, Berlese funnel collection. Kolonia, July-Aug. 1950, Goss; Babelthuap, wooded peak southwest of Ulimang, in *Pandanus* blossom, Dec. 12, 1947, Dybas; Ngerehelong, Dec. 18, 1947, Dybas.

DISTRIBUTION: Mariana Is., Western Caroline Is.

HOST: *Pandanus* blossom, Berlese funnel collection, light trap.

Many larvae were taken in the *Pandanus* blossom, together with one adult specimen of *H. nitidus* and 22 adults of *H. reticulatus*. The larva of *H. reticulatus* is here figured.

18. Haptognathus pacificus Gillogly, n. sp. (figs. 8, *c*; 9).

Oval, somewhat depressed, uniformly pale testaceous except for eyes and dark band on tips of elytra, shining, pubescence pale yellow, very short, inconspicuous, hardly longer than punctation. *Head* horizontal, transverse, nearly as wide as prothorax, strongly sparsely punctate, front broad at insertion of antennae then abruptly narrowed to accommodate base of mandibles; in males suddenly deflexed with clypeus and labrum extending down between mandibles; in females, front not deflexed, clypeus and labrum porrect. Antennae of female extending half way across prothorax, those of male reaching base of elytra. Labrum trapezoidal, very deeply notched. Mandibles of males prognathus, simple, variable in size, often as long as prothorax, occasionally but little longer than head; mandibles of females with a large tooth behind tip but of normal size. Maxillae of one lobe, lacinia heavily bearded, rather slender, tapering to pointed tip, near base a paired spur which appears simple when viewed from side but when seen from an oblique angle appears to be composed of two spurs lying against each other, palpi filiform, first segment minute, the other three elongate cylindrical. Labium with widely projecting membranous lobes, palpi slender, segments subclavate. Mentum emarginate anteriorly, strongly transverse. *Prothorax* transverse, twice as wide as long, somewhat narrower at apex than base, apex lightly but widely emarginate, sides evenly rounded, reflexed, narrowly explanate, anterior angles rounded, posterior angles obtuse but definite. Scutellum triangular, strongly punctate. *Elytra* as broad as prothorax, conjointly as wide as long, sparsely strongly punctate, very narrowly reflexed, not at all explanate, tips obliquely truncate exposing pygidium and more or less of penultimate segment, exterior angles broadly rounded, sutural angles distinct, tips usually marked with a dark band, but this is lacking in some specimens. Fimbriae are wide on penultimate dorsal segment. Pygidium triangular, densely, strongly punctate, pubescence longer and more evident than on elytra; truncate in males but supplementary segment maintains triangular form. Prosternum nearly smooth, very finely and sparsely punctate. Prosternal process projecting behind coxae and deflexed to form a vertical face. Mesosternum depressed. Metasternum strongly, deeply, very sparsely punctate, axillary space absent. Postcoxal line absent on first ab-

dominal segment. Femurs canaliculate for reception of tibiae. Anterior tibia finely denticulate on outer margin, others simple. Tarsi not widely lobed, strongly clothed with spatulate hairs. Claws simple. Length 2.0-4.0 mm.; width 1.0-1.5 mm. Female four fifths the size of the male.

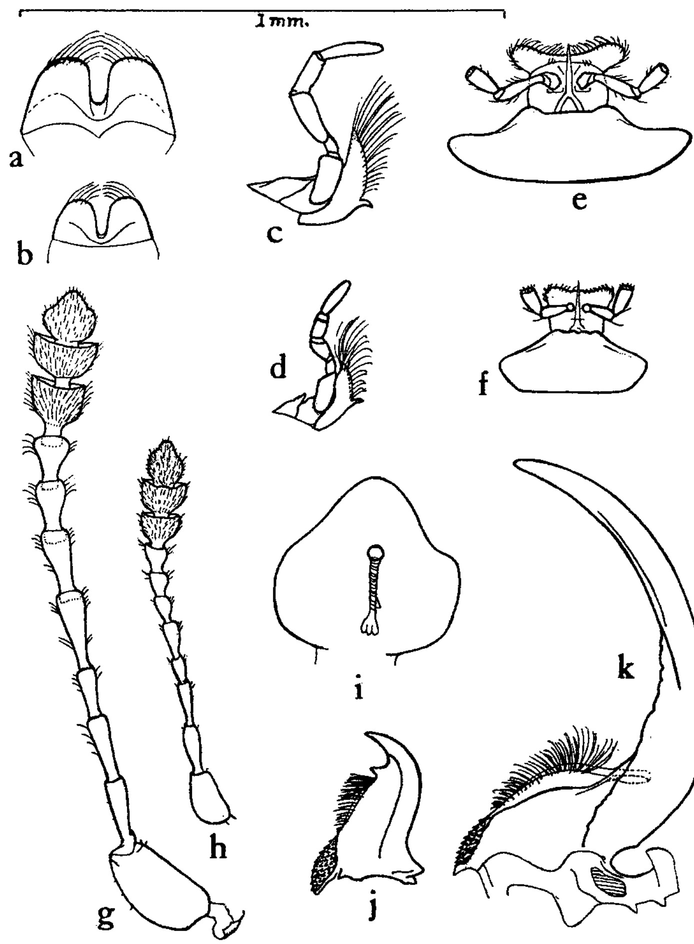


FIGURE 9.—*Haptognathus pacificus:* **a,** labrum, male; **b,** labrum, female; **c,** maxilla, male; **d,** maxilla, female; **e,** labium, male; **f,** labium, female; **g,** antenna, male; **h,** antenna, female; **i,** end segment, male antenna, further enlarged to show sensillum; **j,** mandible, female; **k,** right mandible, male, dorsal surface.

Holotype, male (US 65908), Pt. Oca, Agana, Guam, at light, May 27, 1945, G. Bohart and Gressitt; allotype, female (US 65908), Pt. Oca, Guam, May 1945, Bohart and Gressitt. Three hundred and six paratypes:

S. MARIANA IS. SAIPAN: Jan. 1945, Ellsworth Hagen; Apr. 1945, Ellsworth Hagen; As Mahetog area, Nov.-Dec. 1944, Dybas; As Mahetog

area, May 1945, Dybas; Papago area, May 1945, Dybas; Mt. Tapochau 1 mile northeast of summit, May 1945, Dybas; Saipan, Aug. 18, 1939, Matusita. TINIAN: Marpo Valley, Oct. 1945, Dybas. ROTA: June 18, 1951, R. Bohart. GUAM: Pt. Oca, May, June, July 1945, light trap, G. Bohart, Gressitt; Pt. Oca, May 29, 1945, at light, Bohart and Gressitt; Agat, Sept. 1945, Hagen; Agana, Sept. 18, 1945, Wallace; Pt. Ritidian, Aug. 1, 1945, Gressitt; Pt. Ritidian, June 19, 1945, G. Bohart and Gressitt; Mt. Bolanos, Aug. 1952, Krauss.

YAP. Dugor, July-Aug. 1950, Goss; Dugoi (Dugor) July-Aug. 1950, Goss; Kolonia, July-Aug. 1950, Goss; Ruul Dist. July-Aug. 1950, Goss; Rumung I., July-Aug. 1950, Goss; E. Map I., July-Aug. 1950, Goss.

PALAU. BABELTHUAP: Ulimang, Dec. 9, 1947, Dybas; wooded valley west of Ulimang, Dec. 21, 1947, Dybas; wooded peak southwest of Ulimang, Dec. 12, 1947, Dybas. KOROR: Koror I., May 21, 1953, Beardsley; Peleliu I., northeast coast, Jan. 28, 1948, Dybas.

DISTRIBUTION: Mariana Is., western Caroline Is.

HOSTS: At light, beating vegetation, Berlese funnel.

H. pacificus was selected as the genotype because the large mandibles, as compared to the body size of this small beetle, make it perhaps one of the most striking of all the Micronesian Nitidulidae.

19. Haptognathus reticulatus Gillogly, n. sp. (fig. 10).

Oval, rather convex, surface not shiny, strongly closely punctate, finely reticulate between punctations, sparsely pubescent, pale testaceous. *Head* very transverse; eyes prominent, front not lobed over insertion of antennae; anterior tentorial pits small, distinct, and in line with antennal bases. Antennae reaching nearly half across prosternum, first segment large and distended, second and third slender, third nearly as long as first, fourth shorter than fifth, sixth to eighth of equal length, club oval, very compact. Mouthparts: Labrum deeply bilobed, outer margins rounded; male mandibles especially prognathus, tip deeply forked, inner side a scoop, strongly toothed base; lacinia without basal spur; paraglossae lobes large, membranous, acutely pointed; mentum bisinuate on anterior margin, projecting rather strongly forward in middle, surface finely, strongly reticulate, obsoletely punctate. Antennal grooves very short, not at all convergent. *Prothorax* transverse, with width to length as 1.7 to 1, anterior hardly emarginate, sides very narrowly reflexed, narrowed to apex, lightly bowed, widest a little behind midpoint, anterior angles acutely rounded, posterior angles distinct, obtuse, base lightly bisinuate, punctation moderate, fairly close, surface finely reticulate. Scutellum triangular, strongly closely punctate. *Elytra* as long as wide together, sides evenly arcuate, very narrowly reflexed, apex narrower than base, tips strongly truncate, exposing pygidium and a portion of penultimate segment, sutural angle obtuse, not retracted. Pygidium triangular, closely rather finely punctate and with short, fine, pale pubescence, becoming long near tip to form pointed brush of setae. Fimbriae on penultimate segment distinct but rather narrow. Prosternum strongly reticulate, obsoletely punctate between coxae, becoming impunctate toward sides. Prosternal process narrow, not broadly expanded behind coxae, tip deflexed, presenting a vertical face to mesosternum, profile of prosternum and prosternal process moderately arcuate. Mesosternum strongly depressed below plane of metasternum, a rather wide, rounded, longitudinal ridge extending beneath prosternal process, ridge strongly, closely, transversely striated. Metasternum short, reticulate, sparsely, moderately strongly punctate, sparsely strongly pubescent. Anterior and middle coxae close together, posterior coxae twice as far apart. Ventral abdominal segments pubescent, rather obsoletely alutaceous, lightly punctate. Length 1.7-2.2 mm.; width 1 mm.

Holotype, male (US 65909), Ulimang, Babelthuap I., Palau, Dec. 15, 1947, Dybas; allotype, female (US), wooded peak southwest of Ulimang, *Pandanus* blossom, Dec. 12, 1947, Dybas. Seventy-nine paratypes:

S. MARIANA IS. SAIPAN: As Mahetog area, at light, May 1945, Dybas; Papago area, in *Pandanus* blossom, May 1945, Dybas; Amantes Point, May 1945, Dybas. GUAM: Pt. Ritidian, Aug. 1, 1945, Gressitt; Pt. Oca, May 27, 1945, G. Bohart and Gressitt.

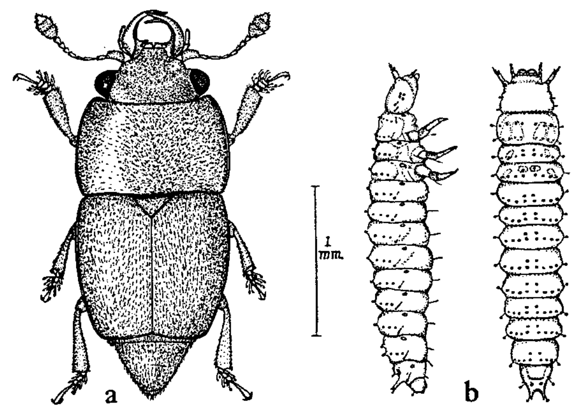


FIGURE 10.—*Haptognathus reticulatus:* **a**, holotype, male, length 2.4 mm.; **b**, larva, lateral and dorsal views, Babelthuap I.

PALAU. BABELTHUAP I.: wooded peak southwest of Ulimang, *Pandanus* blossom, Dec. 12, 1947, Dybas; Ulimang, Dec. 26, 1947, Dybas; East Ngatpang, 65 m., light trap, Mar. 1952, Dec. 10, 1952, Gressitt; Ngaremlengui, June 1, 1957, Sabrosky; Ngaremeskang, 30 m., Dec. 1952, Gressitt. KOROR I.: at light, July 2, 1953, Beardsley; Koror I., northwest, Apr. 28, 1957, limestone ridge, Sabrosky; Arabaketsu, June 7, 1938, Murakami. NGARMALK: northwest Auluptagel (Ngarmalk), 25 m., light trap, Dec. 12, 1952, Gressitt.

DISTRIBUTION: Mariana Is., Palau Is.

HOST: *Pandanus* blossom; at light.

Genus **Haptoncus** Murray

Haptoncus Murray, 1864, Linn. Soc. London, Trans. **24**: 401 [type: *Haptoncus tetragonus* Murray = *Haptoncus ocularis* (Fairmaire)].

Haptoncura Reitter, 1875, Nat. Ver. Brünn, Verh. **13**: 61, 64 (type: *Epuraea luteola* Erichson).

Body small, slightly convex. *Head* large, clypeus indistinct, slightly porrect. Antennae of moderate length with first segment large and swollen, second convex, club rather large, oval, compact, pubescent. Labrum very deeply bilobed. Mandibles strongly or feebly bi-

dentate, ciliated along inner side. Lacinia broad, heavily bearded, tip rounded. Maxillary palpi with first segment small, second much larger and clavate, third shorter and stout, last long and cylindrical. Ligula with large, laterally projecting paraglossae. Labial palpi with cup-shaped segments; first two small, terminal segment greatly enlarged and broadly truncate. Mentum transverse and variably emarginate in front. *Pronotum* lightly convex, margined, and usually strongly transverse. Scutellum moderate. *Elytra* not striate; truncate, usually obliquely, and leaving two dorsal chitinized segments exposed. Prosternal process behind coxae widened, rounded, and depressed. Mesocoxae a little farther apart than procoxae, metacoxae about twice as far apart as mesocoxae. Femora canaliculate, tarsi feebly dilated, anterior tarsi more strongly dilated than others. Claws simple. Males with supplementary abdominal segment usually visible from above and in some species posterior tibiae dilated.

This genus forms a natural transition between the subfamilies Carpophilinae and Nitidulinae. At various times and by various authors it has been placed with each subfamily. I have, in fact, placed it with the Carpophilinae several times during the preparation of this paper, only to move it back with the Nitidulinae.

The most significant character separating the Carpophilinae from other nitidulids is that the truncate elytra expose at least two dorsal abdominal segments. In dried specimens of *Haptoncus,* upon which descriptions must necessarily be based, usually only the pygidium is exposed dorsally behind the elytra. Thus, in order to preserve the Carpophilinae as a useful group, I finally place *Haptoncus* with the Nitidulinae and caution future students that live specimens and many alcohol preserved specimens can easily be keyed into the Carpophilinae.

Key to Micronesian Species of Haptoncus

1.	Temples present behind eyes	2
	Temples absent behind eyes	9
2(1).	Prothorax disc finely reticulate	3
	Prothorax disc alutaceous	4
3(2).	Elytra tips rounded separately	**32. opacus**
	Elytra: male with distinct angle on tip, female tip attenuate	**22. attenuatus**
4(2).	Elytra sutural angles distinct	5
	Elytra sutural angles separately rounded	7
5(4).	Prothorax apex narrower than base, male posterior tibiae bent	6
	Prothorax apex as wide as base, male posterior tibiae straight	**27. luteolus**
6(5).	Prothorax apex emarginate, sides arcuate	**35. testaceus**
	Prothorax apex nearly straight, sides parallel from middle to base	**20. albertisi**
7(4).	Elytra concolorous	**34. sordidus**
	Elytra marked	8
8(7).	Elytra pale with dark spot near middle of each	**30. ocularis**
	Elytra with pale area at posterior third of each	**23. barbulus**
9(1).	Prothorax surface reticulate	10
	Prothorax surface smooth and shiny	12
10(9).	Body oval, prothorax nearly twice as wide as long	**31. opaculus**
	Body elongate, prothorax more than twice as wide as long	11

11(10). Prothorax posterior angles obtuse, elytra tips separately rounded......**26. insularis**
Prothorax posterior angles rounded, elytra tips strongly truncate....**24. dispersus**

12(9). Prothorax posterior angles nearly right angled......13
Prothorax posterior angles rounded or obtuse......15

13(12). Prothorax margins narrowly explanate except near posterior angles....**36. valgus**
Prothorax margins explanate......14

14(13). Size small, testaceous, depressed, elytra a little longer than wide together, sutural angles distinct......**28. minutus**
Size moderate, dark ochraceus, fairly convex, elytra considerably longer than wide together, sutural angles rounded......**33. sobrinus**

15(12). Elytra tips squarely truncate, color dark......**29. murrayi**
Elytra obliquely sinuately truncate, testaceous......16

16(15). Prothorax apex truncate, antennal club strongly pubescent......**21. arcuatus**
Prothorax apex emarginate, antennal club lightly pubescent......**25. epuraeoides**

20. **Haptoncus albertisi** Reitter.

Haptoncus albertisi Reitter, 1880, Mus. Civ. Stor. Nat. Genova, Ann. **15**: 455.

Oval, testaceous, alutaceous; pubescence short, fine, and yellow. *Head* with temples present behind eyes. Antennae with third segment elongate, as long as fourth and fifth together. Submentum transversely alutaceous and coarsely punctate. *Prothorax* transverse, in male nearly twice, in female more than twice as wide as long, rather densely finely punctate, surface transversely alutaceous, apex and base nearly straight, sides nearly parallel from base to middle then narrowed to apex, side margins narrowly reflexed. Scutellum feebly punctate. *Elytra* not wider than thorax, twice as long, closely finely punctate, tips a little obliquely truncate, side margins lightly reflexed, nearly parallel, with apex and base equally narrowed, sutural angles distinct. Metasternum disc transversely alutaceous becoming finely reticulate toward sides. Ventral abdominal segments finely reticulate. Length 2.3-2.5 mm.

Male posterior tibiae bent near mid point, inner margin sinuate, dilated from middle to apex. Supplemental sixth segment visible from above. Female tibiae simple.

DISTRIBUTION: New Guinea, S. Mariana Is., Caroline Is., Marshall Is., Gilbert Is.

S. MARIANA IS. GUAM: Pt. Oca, May 1945, G. Bohart and Gressitt.

YAP. YAP I., July 1946, Oakley.

MARSHALL IS. ARNO: Ine, July 1950, La Rivers.

GILBERT IS. TARAWA: Banraeaba, Dec. 1957, Krauss.

HOSTS: Decaying fruit, fallen *Pandanus* fruit.

This species differs from *H. concolor* in the narrowly margined sides of the prothorax, from *H. ovalis* which is only half its size, and from *H. luteolus* and *H. testaceous* in that the sides of its prothorax are parallel on the basal half rather than narrowed to the base.

21. **Haptoncus arcuatus** Gillogly, n. sp. (fig. 12, *a*).

Oval, moderately convex, testaceous, strongly closely punctate, shining, not alutaceous, pubescence scarcely evident, short, pale, and close-lying. *Head* moderately densely punctate, anterior tentorial pits scarcely evident, not depressed; eyes moderate, occupying entire side of head leaving no temples behind; antennal club strongly pubescent. *Prothorax* twice as wide as long, apex nearly straight, base feebly bisinuate, nearly straight, sides strongly arcuate, widest near posterior third, apex considerably narrower than base, both anterior

and posterior angles rounded, sides narrowly margined, becoming somewhat explanate near base, disc flattened, moderately densely, strongly punctate, surface not at all alutaceous. Scutellum triangular, coarsely punctate. *Elytra* conjointly as wide as long, sides evenly arcuate, margin narrowly reflexed, not at all explanate, tips rather obliquely sinuate-truncate, exterior angles broadly rounded, sutural angles separately rounded, surface densely, subrugosely punctate. Pygidium finely punctate, closely set with short, thick, straight, pale testaceous pubescence which does not obscure finely reticulate surface. Submentum finely sparsely punctate, very finely reticulate. Metasternum and abdominal segments distinctly alutaceous. Supplementary segment of male terminal and visible from above. Length 2 mm., of holotype 2 mm.; width 0.9 mm.

Holotype, male (US 65910), Tol I. (Ton), Mt. Unibot, Truk, 390 m., native forest, light trap, Jan. 4, 1953, Gressitt; allotype, female (BISHOP 3173), same data as type but Jan. 2, 1953; three paratypes with same data as allotype, one with same data except taken on Feb. 3, 1953; one paratype, Ponape, Colonia, at light near sea level, Mar. 5, 1948, Dybas (this is a darker colored specimen); one paratype, Ponape, Colonia, on *Pithecellobium dulcis,* Jan. 13, 1953, Clarke.

DISTRIBUTION: Caroline Is.

HOSTS: Native forest, at light, and on *Pithecellobium dulcis.*

This species is similar to *Haptoncus concolor* but the apex of prothorax is straight rather than emarginate, the posterior angles of the prothorax do not project backward, the sutural angles of the elytra are rounded rather than right-angled, and the punctation cannot be considered to be light or faint.

22. **Haptoncus attenuatus** Gillogly, n. sp. (fig. 11, *a-c*).

Oval, surface moderately shining and finely reticulate, pale testaceous to dark testaceous, finely punctate, close-lying yellow pubescence. *Head* moderately transverse, strongly, rather coarsely punctate, surface alutaceous; eyes large, interior margins converging anteriorly, temples present behind eyes, posterior angle of head distinct; antennae with third segment elongate, fourth much shorter than third, fifth nearly as long as third but thicker. *Prothorax* transverse, with width to length as 1.8 to 1, anterior margin emarginate, apex somewhat narrower than base, sides evenly arcuate, narrowly margined, widest about one-fourth distance from base, anterior angles rounded, posterior angles distinct, obtuse, base straight, punctation moderately strong and dense. Scutellum triangular, punctate as prothorax. *Elytra* together as wide as long, very narrowly margined, posteriorly somewhat narrowed, punctation less dense and less distinct than on prothorax; color typically more fuscous than prothorax with a pale spot near posterior third in some specimens, others have pale elytra with only the sutural angles dark, while several have the entire elytra pale testaceous. Submentum strongly sparsely punctate and finely reticulate. Metasternum alutaceous on disc, becoming finely reticulate toward sides. Ventral abdominal segments reticulate. Length 2.4 mm.; width 1.2 mm.

Male: Elytra obliquely truncate, sutural angles cut off, forming definite obtuse angle on tip of each elytron. First ventral abdominal segment with a distinct median spine-like tubercule near posterior margin, directed posteriorly. Supplementary segment of abdomen triangular, visible from above. Tibiae simple, not dilated nor sinuate.

Female: Elytra tips separately submucronate. First ventral abdominal segment simple, without spine.

Holotype, male (US 65911), Truk, Moen, Civ. Ad. Area, rotting papaya, Mar. 1949, Potts; allotype, female (US), Truk, Moen, Aug. 1, 1946, Oakley;

paratopotypes, one with same data as holotype and 22 with same data as allotype. Paratypes from the following localities:

S. MARIANA IS. One specimen, Guam, Agat R., on *Ochrosia* fruit, June 15, 1938, Oakley.

PALAU. One specimen, Koror, Mar. 15-25, 1948, Maehler; one, Babelthuap, E. Ngatpang, 65 m., light trap, Mar. 10, 1952, Gressitt.

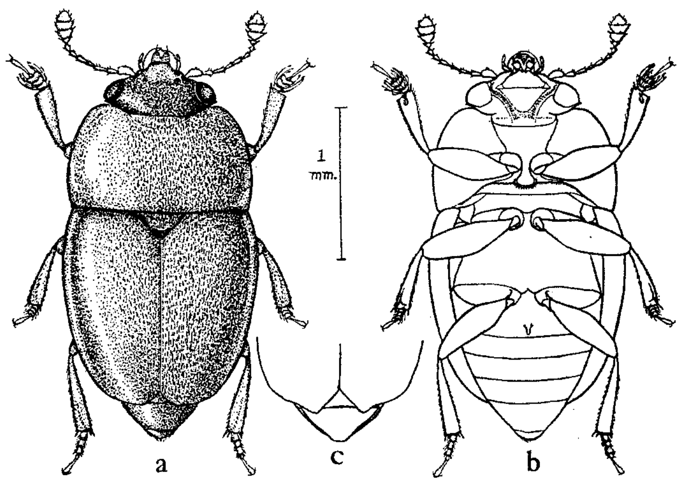


FIGURE 11.—**a-c,** *Haptoncus attenuatus: a,* holotype, male; *b,* holotype, male, ventral view showing tubercle on rear edge of first abdominal segment; *c,* female, length 2.5 mm.

CAROLINE ATOLLS. Many specimens: Woleai Atoll, Utagel I., July 28, 1946, Oakley; Ifalik Atoll (Ifaluk, Ifaluk Is.), at light, Sept. 4, 1953, Bates; Kapingamarangi Atoll, Weru Is., Aug. 4, 1946, Oakley; Ranau Village, Falarik I., Ifaluk Atoll, Sept. 20, 1953, no collector.

TRUK. Moen, Feb. 5-9, 1948, Maehler; Moen, Feb. 19, 1948, Dybas; Moen, Mt. Tonaachau, in rotting papaya and papaya log, Apr. 4&6, 1949, Potts; Civ. Ad. Area, in rotting papaya, Mar. 11, 1949, Potts; Aug. 1, 1946, Oakley; male, Truk, flower of *Pandanus,* (no date), B. Stone; Tol Is., Mt. Unibot, 390 m., light trap, Feb. 3, 1953, Dec. 31, 1952, Gressitt; Toloas-Erin, Apr. 3, 1940, Yasumatsu and Yoshimura.

PONAPE. Agric. Expt. Sta., July 17, 1950, Adams; Colonia, on gasoline drum, June-Sept. 1950, Aug. 12, 1950, Adams; Airfield #2, Mt. Kubersoh, Tolenot Peak, 570 m., June-Sept. 1950, Adams; Mt. Nanalaut, 770 m., in *Pandanus,* Jan. 1953, Gressitt; Mt. Temwetemwensekir, Mar. 23, 1948, Dybas; Mt. Nanalaut, 300 m., sweeping vegetation, Mar. 17, 1948, Dybas; Mt. Kupuriso, 300-450 m., vegetation, Mar. 1948, Dybas; Colonia-Nat, Nov. 19, 1937, Esaki.

KUSAIE. Mutunlik, 22 m., at light, Feb. 3, 1953, Clarke; Mt. Matante, 580 m., at light, Mar. 4, 1953, Clarke; Mt. Tafeayat, 510 m., in immature unknown fruit and at 150 m. in rotting breadfruit, Feb. 9, 1953, Clarke; Hill #541, light trap, Mar. 11-Apr. 16, 1953, Clarke; Lelu Is., 100 m., light trap, Feb. 18, 1953, Clarke; Mwot, Apr. 10, 1953, Clarke; Mutunlik, Feb. 28, 16, 15, also at light, Feb. 4, 1953, Clarke; Matanluk (Yepan), 16 m., Jan. 24, 1953, Gressitt.

DISTRIBUTION: S. Mariana Is., Caroline Is.

HOSTS: Rotting papaya, rotting breadfruit, *Ochrosia* fruit, immature unknown fruit, in *Pandanus,* light trap, sweeping vegetation, on gasoline drum; sea level to 750 m.

The name of this species refers both to the spine on the first abdominal segment of the male and to the tips of the female elytra. These two characters together with the angular tips of the male elytra have been observed in no other species of *Haptoncus.*

The tiny raised fascicle on the last ventral abdominal segment in *Haptoncus prolatus* is so small as to be easily overlooked unless the segment is especially well cleaned and cannot be confused with the spine in this species.

22a. **Haptoncus attenuatus** Gillogly variety.

A series of males, seven specimens from Truk Atoll, Fefan Islet and one specimen each from Moen, Woleai Atoll, and Utagel Islet, and Kusaie, all lack the ventral abdominal spine. All have pale testaceous elytra with a dark, oblique sutural area which is found on typical specimens, and the tips of the elytra are typically *Haptoncus attenuatus.* Elytra of females from the same collections are similarly marked but have the typical sub-mucronate tips. I do not feel that these males are sufficiently distinct to be described as a separate species, however, mention is made in order to indicate that the secondary sexual character of the abdominal spine is variable in the species.

23. **Haptoncus barbulus** Gillogly, n. sp. (figs. 12, *b;* 13).

Oblong-oval, moderately convex, surface opaque, transversely alutaceous, testaceous but for dark markings on elytra, hairs sparse, yellow, close-lying, surface finely sparsely punctate. Antennae rather long, often reaching across anterior coxae, first segment greatly expanded, second and third about equal in length, fourth slender and shorter than these, fifth longer than fourth but shorter than third, sixth to eighth short and gradually thicker, club less than twice as long as wide, its width seven times width of fourth segment. Eyes moderate, *head* slightly extended behind eyes, posterior angle of head distinct, inner margin of eyes parallel in front. *Prothorax* with width to length as 1.7 to 1, anterior margin fairly deeply emarginate, notch about one-third of apex, sides evenly rounded, moderately explanate and somewhat reflexed, anterior angles broadly rounded, posterior angles distinct, obtuse, base nearly straight, surface alutaceous on disc, becoming reticulate near sides. Scutellum triangular, punctate. *Elytra* conjointly as wide as long, tips truncate, separately rounded, sides explanate as on prothorax, dark c-shaped mark covering posterior two-thirds of each elytron and extending from near outer margin to and along suture and outward again at tip, surface sparsely finely granulate. Pygidium triangular; in the male, truncate and triangular form completed by supplementary segment. Anterior and middle tibiae rather clavate, tarsi pubescent beneath with long spatulate setae, posterior tibiae in both

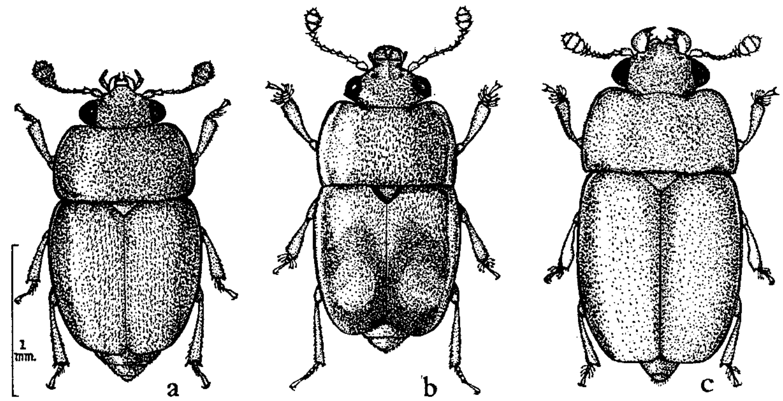


FIGURE 12.—**a**, *Haptoncus arcuatus*, holotype, male, length 2 mm.; **b**, *H. barbulus*, holotype, male, length 2 mm.; **c**, *H. valgus*, holotype, male, length 2.3 mm., all drawn to same scale.

sexes straight, very slender, and one-fourth longer than others, posterior tarsi not at all dilated and with little pubescence beneath. Mouthparts: Labrum deeply bilobed, lobes evenly rounded; mandibles with a tooth behind tip; maxillae, lacinia quadrate, first segment of palpi minute, second swollen, third cylindrical, equal to second, fourth cylindrical and twice as long as wide; labium with paraglossae trapezoidal, nearly straight in front, palpi greatly enlarged. Mentum emarginate on anterior margin, the emargination sinuate. Submentum, in the males, with a pencil of setae at middle near anterior margin, its surface smooth and shining, finely sparsely punctate. Length 2.4 mm. (of holotype 2 mm.); width 1.1 mm.

Holotype, male (US 65912), Ulithi Atoll, Potangeras Islet, Nov. 10, 1947, H. S. Dybas; allotype, female (US), same data as holotype; 49 paratopotypes. Paratypes: S. Mariana Is., Guam: Pt. Ritidian, fungus on beach, May 19,

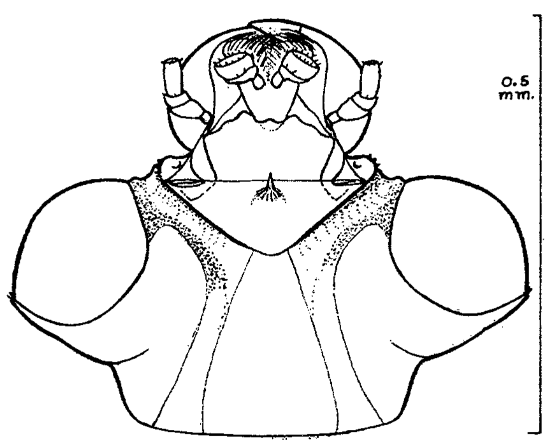


FIGURE 13.—*Haptoncus barbulus*, holotype, male, ventral view of head showing **beard** on submentum.

1945, Gressitt; Mt. Alifan, Oct. 1957, Krauss; Fadian, seed of *chopag,* Aug. 19, 1936, Swezey; Dededo, in *Pandanus* fruit, June 8, 1939, R. G. Oakley; Yigo, Torres Ranch, July 1, 1938, Oakley; Agat, June 15, 1938, Oakley.

PALAU. BABELTHUAP: E. Ngatpang, 65 m., light trap, Dec. 10, 1952, Gressitt; Peleliu I., Feb. 7, 1948, Dybas; Kayangel, Aug. 25, 1956, McDaniel.

YAP. Kolonia, S. Ruul, Kanif, Dugoi (Dugor), Tomil Dist., Gagil Dist., Map, E. Map, N. Map, S. Rumung, E. Rumung, July-Aug. 1950, Goss; Yap I., Yap, July 13, 1946, Oakley.

CAROLINE ATOLLS. Ulithi Atoll, Fassarai I., Oct. 7, 1952, Krauss; Mog Mog Is., May 1945, Young.

KUSAIE. Mt. Tafeayat, 518 m., Nov. 1953, Clarke; Mutunlik, light trap, Feb. 28, 1953, Clarke.

DISTRIBUTION: S. Mariana Is., Caroline Is.

HOSTS: *Pandanus* fruit, seed of *chopag,* fungus on beach.

The name *barbulus* refers to the "little beard" on the submentum of the males. This species has the elytra marked as in *H. dubius* Grouvelle but the types of that species were examined at the Civic Museum of Genoa by Drs. Kuschel and Capra who found that they did not have this character. The only other difference in these two species is that *H. dubius* (as described by Grouvelle) has the base of the prothorax fairly widely sinuate near the angles while the base of the prothorax is quite straight in *H. barbulus.*

24. **Haptoncus dispersus** Grouvelle.

Haptoncus dispersus Grouvelle, 1906, Soc. Ent. France, Ann. **75**: 74.

Elongate, subparallel, convex, surface finely reticulate, a little shining, dark testaceous, dark yellow pubescence. *Head* transverse, sparsely punctate, transversely impressed and bifoveolate between bases of antennae; labrum prominent but not very large; submentum smooth and shining, deeply, sparsely, rather finely punctate; antennae rather stout, segments four to seven transverse, eight very transverse, club oblong-elongate; eyes large, prominent, covering entire side of head, temples absent. *Prothorax* more than twice as long as wide, apex not at all emarginate, apex narrower than base, sides arcuate, all angles rounded or sub-rounded, side margins narrow but somewhat explanate toward base, base straight. Scutellum triangular, sparsely punctate. *Elytra* a little wider than prothorax, nearly one and one-half times as long as wide together, sides subparallel, only slightly arcuate, tips strongly widely truncate, densely punctate. Pygidium exposed, punctate, subacuminate. Male tibiae simple. Length 1.75-2.0 mm.

DISTRIBUTION: Tropical Africa, Madagascar, Palau Is., Caroline Is.

PALAU. KOROR: two specimens, May 1953, Beardsley.

YAP. YAP: one specimen, Oct. 1952, Krauss.

TRUK. DUBLON: one specimen, Dec. 1936, Ono.

25. **Haptoncus epuraeoides** Grouvelle.

Haptoncus epuraeoides Grouvelle, 1908, Soc. Ent. France, Ann. **77**: 344.

Oval, moderately convex, shining, surface neither alutaceous nor reticulate, pubescence yellow, color reddish-testaceous. *Head* lightly convex, densely punctate, impressed on each side near base of antennae; submentum smooth and shiny, deeply, sparsely, moderately

finely punctate; antennae rather short, fourth segment nearly quadrate, club oblong and concolorous with head, last segment narrower than preceding, tip emarginate-truncate; eyes large, temples absent. *Prothorax* slightly more than twice as wide as long, apex narrower than base, and lightly but not widely emarginate, anterior angles rounded, sides rounded and narrowly explanate, posterior angles obtuse, base nearly straight, surface rather densely coarsely punctate. Scutellum triangular. *Elytra* oval, conjointly nearly one and one-third times as long as their greatest width, sides rounded and margins somewhat explanate, tip somewhat obliquely truncate and sinuate, sutural angles rounded, surface strongly punctate but less densely than head. Pygidium triangular, densely punctate. Metasternum disc nearly smooth, very shiny, becoming reticulate toward sides. *Males:* supplementary segment triangular, visible from above, tibiae simple. Length 1.6 mm.

DISTRIBUTION: Ceylon, S. Mariana Is., Caroline Is., Marshall Is.

S. MARIANA IS. GUAM: many specimens; Dededo, in *Pandanus* fruit, June 1939, Oakley; at light, May-Aug. 1945, Bohart and Gressitt; June-July 1945, Chaffee; Pt. Ritidian, light trap, Aug. 1945, Gressitt; Pt. Oca, light trap, May, June, July 1945, Gressitt and Bohart; Pt. Oca (NAMRU-2), light trap, June, July 1945, Bohart and Gressitt.

CAROLINE ATOLLS. ULITHI: Nov. 1947, Dybas.

TRUK. DUBLON: Dec. 1935, Ono; at light, Jan. 1953, Gressitt.

PONAPE. Colonia, nr. sea level, at light, Mar. 1948, Napil Nett Dist., Feb. 1948, Dybas; Mt. Temwetemwensekir, 180 m., light trap, Jan. 1953, Gressitt; Agric. Expt. Sta., June-Sept. 1950, Adams; Colonia, 22 m., at light, Jan. 1953, Clarke.

KUSAIE. Mutunlik, 22 m., at light, Feb. 1953, Clarke.

MARSHALL IS. WOTHO: Wotho I., forest floor under *Allophyllus,* Feb. 1952, Fosberg, no. 795.

26. Haptoncus insularis Grouvelle.

Haptoncus insularis Grouvelle, 1905, Mus. Civ. Stor. Nat. Genova, Ann. IIIa, 2 (42): 319.

Oblong, elongate, moderately convex, shining, surface very finely reticulate, grayish-yellow color, sparse yellow pubescence. Antennae short, third segment longer than wide, fourth quadrate, club nearly twice as long as wide, last segment slightly longer and a little narrower than preceding. *Head* transverse, sparsely punctate, bi-impressed in front, labrum moderately projecting, submentum surface smooth, moderately densely punctate; eyes large, coarsely faceted, occupying entire side of head, temples absent, interior margins converging. *Prothorax* transverse, more than twice as wide as long, apex subtruncate, anterior angles rounded, sides lightly rounded, nearly parallel, but more strongly curved near base and apex, not explanate, posterior angles obtuse, base slightly bisinuate on each side, nearly straight, punctation moderately dense, fairly strong. Scutellum triangular, fairly large, finely punctate. *Elytra* nearly parallel but narrowing posteriorly, scarcely one and one-half times as long as wide together, tips strongly truncate, sutural angles separately rounded, fairly densely punctate. Pygidium triangular, nearly as long as wide, tip truncate in males. Length 1.5 mm.

DISTRIBUTION: Timor-Deli; W. Caroline Is.

PALAU. KOROR: two specimens, May 1953, Beardsley.

27. Haptoncus luteolus (Erichson).

Epuraea luteola Erichson, 1843, IN Germar's Zeitschr. für Ent. **4**: 272.
Nitidula intendens Walker, 1858, Ann. Mag. Nat. Hist., III, **2**: 206.
Haptoncura subquadratus Reitter, 1877, Munch. Ent. Ver., Mitt. **1**: 22.
Haptoncus pauperculus Reitter, 1873, Syst. Eintheil. Nitid., 179.
Epuraea texana Crotch, 1874, Am. Ent. Soc., Trans. **3**: 76.

Oval, slightly oblong, uniformly testaceous, except for black eyes and fulvous antennal club, surface transversely alutaceous but not reticulate, moderately shining. *Head* finely sparsely punctate; temples present behind eyes; submentum reticulate, coarsely punctate. *Prothorax* with width to length as 1.9 to 1, apex emarginate, anterior angles somewhat obtuse, sides feebly arcuate, narrowing anteriorly, margins narrowly reflexed, hind angles rectangular, base straight, surface rather finely densely punctate, transversely alutaceous. *Elytra* a little longer than wide together, narrowed posteriorly, tips truncate, outer angles rounded, sutural angles nearly rectangular, surface more sparsely and coarsely punctate than prothorax. Mesosternum and ventral abdominal segments reticulate. Pygidium triangular. Posterior tibiae of males with basal two-fifths slender and apical portion twice as wide, inner margin sinuate. Length 2.0-2.5 mm.

DISTRIBUTION: Tropicopolitan and throughout Micronesia.

S. MARIANA IS. TINIAN: Mar. 1945, Ellsworth Hagen. ROTA: Sosan Isthmus, Oct. 1945, Necker. GUAM: Piti, July 1937, Oakley; Agric. Farm, Jan. 1948, Maehler; Talofofo, Apr. 1946, Krauss.

YAP. YAP I., July 1946, Oakley.

CAROLINE ATOLLS. ULITHI: Mogmog I., May 1945, Young; Potangeras Islet, Nov. 1947, Dybas.

TRUK. TON, Tol Netutu, June 1949, Potts. WENA (Moen), S. Valley, Mt. Tonaachau, Apr. 4, 1949, Potts.

KUSAIE. MWOT, at light, Apr. 1953, Clarke.

MARSHALL IS. ARNO: Ine, rotten breadfruit, July 1950, La Rivers.

GILBERT IS. ONOTOA: Buiartun I., *Pandanus* fruit, July 1951, Moul.

28. Haptoncus minutus (Reitter).

Epuraea minuta Reitter, 1873, Syst. Eintheil. Nitid., 27, 40.
Haptoncura nitescens Grouvelle, 1897, Mus. Civ. Stor. Nat. Genova, Ann. **38**: 362.

Very small, short, somewhat depressed, testaceous, surface shining, not at all alutaceous, finely pubescent. *Head* strongly punctate; labrum large; eyes coarsely faceted; temples absent; antennae slightly darkened, segments three, four, and five slender, third rather elongate, last article of club a little more slender than preceding segment; submentum smooth and rather coarsely closely punctate. *Prothorax* as wide as elytra, about twice as wide as long, widest at base, apex strongly and widely emarginate, narrowed from middle to apex, sides widely explanate, anterior angles rounded, posterior angles distinct and nearly rectangular, base truncate but slightly sinuate near angles, disc strongly punctate. Scutellum triangular, punctate. *Elytra* almost twice as long as prothorax, nearly twice as long as wide together, somewhat narrowed toward tips, sides fairly narrowly margined, tips lightly sinuate, sutural and exterior angles rounded, surface rather finely punctate. Tibiae simple in both sexes. Length 1.25-1.5 mm.

DISTRIBUTION: Sumatra, Java, Madagascar, S. Mariana Is., Palau Is., Caroline Is., Marshall Is., Gilbert Is.

S. MARIANA IS. GUAM: Pt. Oca, light trap, July 1945, G. Bohart and Gressitt.

PALAU. BABELTHUAP: Ulimang, dead *Pandanus* cones, Dec. 1947, Dybas; Oller, May 1953, Beardsley. KOROR: May 1953, Beardsley; Mar. 1938, Esaki. PELELIU: Mar. and Aug. 1945, Dybas.

YAP. YAP: July 1946, Oakley; Kolonia, S. Rummung I., Tomil Dist., Gagil Dist., July-Aug. 1950, Goss.

CAROLINE ATOLLS. ULITHI: Potangeras Is., Nov. 1947, Dybas.

TRUK. FEFAN: May 1946, Oakley.

PONAPE. Agric. Expt. Sta., and Airfield 2, June-Sept. 1950, Adams; Colonia, Jan. 1953, and Lelu I., Feb. 1953, Clarke.

KUSAIE. Mt. Matante, light trap, Apr. 1953, Clarke; Mutunlik, light trap, Jan., Feb., Mar. 1953, Clarke; Lelu, *P. dulcis,* and light trap, Jan. and Feb. 1953, Clarke; Tafeayat, on fruits, Feb. 1953, Clarke.

MARSHALL IS. ARNO: Ine I., June 1950, Usinger; July 1950, La Rivers; Bikarej I., July 1950, La Rivers. LAE: Lae I., on *Pandanus* fruits, Jan. 1952, Fosberg, nos. 661-663. LIKIEP: Lato I., in ripe head of *Pandanus* fruit, Dec. 1951, Fosberg, nos. 312-314. JEMO: Jemo I., on ripe *Pandanus* fruit in mixed forest, Dec. 1951, Fosberg, no. 458. WOTHO: Wotho I., inhabiting *Pandanus* fruit, Feb. 1952, Fosberg, no. 803.

GILBERT IS. ONOTOA: Buiartun I., July 1951, Moul. TARAWA: Banraeaba, on fallen *Pandanus* fruit, Dec. 1957, Krauss.

HOSTS: Dead *Pandanus* cones, rotting breadfruit, *Pithecellobium dulcis,* sweet potato, under bark, light trap. Taken at altitudes from 16 m. to 380 m.

This is one of the smallest species of the genus *Haptoncus* and differs from the others by the relatively widely explanate margins of the prothorax, higher shine, and the strong punctation of the head and prothorax.

29. **Haptoncus murrayi** Grouvelle.

Haptoncus murrayi Grouvelle, 1905, Mus. Civ. Stor. Nat. Genova, Ann. IIIa, 2 (42) : 318.

Oval, moderately convex, surface smooth, shining, not alutaceous, dark testaceous, sparse yellow pubescence. *Head* very transverse, densely punctate; labrum a little projecting; anterior margin notched in middle; eyes large, coarsely faceted, occupying entire side of head, inner margins converging anteriorly; temples absent; submentum smooth, shining, sparsely punctate; antennae, fourth segment quadrate, club oblong, nearly one and one-half times as long as wide, last segment as long as but more slender than preceding. *Prothorax* more than twice as wide as long, apex narrower than base, apex and base both subtruncate, anterior angles rounded, sides rounded, not at all explanate, posterior angles obtuse, surface subrugosely punctate. Scutellum fairly large, triangular, nearly glabrous. *Elytra* oval, nearly one and one-fourth times as long as wide together at their greatest width, tips truncate, fairly densely subrugosely punctate. Pygidium nearly as long as wide; males with tip truncate and completed in triangular form by supplementary segment. Length 1.5 mm.

DISTRIBUTION: Mentawai Is. (southwest of Sumatra), Mariana Is.

S. MARIANA IS. GUAM: Pt. Oca, two specimens, on overripe *Pandanus*, June-July 1945, G. Bohart and Gressitt.

30. Haptoncus ocularis (Fairmaire).

Epuraea ocularis Fairmaire, 1849, Rev. Zool. II, **1**: 363.

Nitidula significans Walker, 1858, Ann. Mag. Nat. Hist. III, **2**: 206.

Haptoncus tetragonus Murray, 1864, Linn. Soc. London, Trans. **24**: 401, pl. 33, fig. 7.

Epuraea decoratus Reitter, 1873, Nat. Ver. Brünn, Verh. **12** (1): 28 and 41.

Epuraea Thiemei Reitter, 1873, Nat. Ver. Brünn, Verh. **12** (1): 28 and 41.

Epuraea bifasciatus Kraatz, 1895, Deutsche Ent. Zeitschr., **1**: 148.

Small, oblong-ovate, depressed or slightly convex, lightly punctate and pubescent, testaceous. *Head* bi-impressed between bases of antennae, eyes not occupying entire sides of head, temples present behind eyes, antennal club fuscous, submentum strongly reticulate, finely sparsely punctate. *Prothorax* transverse, nearly twice as wide as long, apex considerably narrower than base, apex emarginate and bisinuate, sides evenly arcuate, anterior angles rounded, posterior angles slightly obtuse, nearly rectangular and a little raised above elytra, base truncate, surface alutaceous but not reticulate. Scutellum triangular, faintly and sparingly punctate and pubescent. *Elytra* not wider than thorax at base, widest a little before middle, immediately behind widest part narrowing somewhat strongly to apex which is considerably narrower than base, sides margined, apex of each elytron obliquely rounded, sutural and exterior angles rounded, surface finely pubescent and punctate, apex black and with an irregular, somewhat zigzag black fascia near middle, not reaching sides or suture but extending forward and then backward; in some specimens also a triangular humeral patch pointing backward. Ventral abdominal segments pubescent and finely punctate. Tibiae simple in both sexes. Length 1.6 to 2.1 mm.; width 1.0 mm.

DISTRIBUTION: East Africa, Madagascar, Ceylon, Indo-China, East Indies, Tahiti, Hawaii, Japan, Micronesia.

BONIN IS. HAHA JIMA: Okimura, three specimens, April-May 1958, Snyder; six specimens, rotting papaya, June-July 1949, Mead. CHICHI JIMA: Omura, eleven specimens, May-June 1958, Snyder.

S. MARIANA IS. SAIPAN: One specimen, May 1940, Yasumatsu and Yoshimura.

MARSHALL IS. ARNO: One specimen, July 1950, La Rivers.

HOSTS: Rotting papaya and breadfruit.

31. Haptoncus opaculus Grouvelle.

Haptoncus opaculus Grouvelle, 1905, Mus. Civ. Stor. Nat. Genova, Ann. IIIa, 2 (42): 318.

Oval, moderately convex, opaque, strongly reticulate, white testaceous, sparse yellow pubescence. *Head* transverse, fairly densely punctate; eyes large, inner margins converging anteriorly; temples absent behind eyes; fourth antennal segment almost square, antennal club oblong, nearly one and one-half times as long as wide, segments nearly equal, third a little more slender than preceding; submentum smooth, shining, almost impunctate. *Prothorax* nearly twice as wide at its greatest width as long, subtruncate on base and apex, base slightly sinuate on each side of scutellum, apex about equal in width to base, side margins very feebly arcuate except near apex and base, sides fairly widely explanate

especially toward base, anterior angles subrounded, posterior angles obtuse, moderately sparsely and somewhat roughly punctate. *Elytra* rather oval, not strongly truncate, sutural angles separately rounded, subrugosely but not at all densely punctate. Pygidium subtriangular, nearly as long as wide, truncate on tip in males and supplemental segment completes triangular form. Tibiae simple in both sexes. Length 1.75 mm.

DISTRIBUTION: Timor, Palau Is.

PALAU. KOROR: One specimen under bark, Nov. 1947, Dybas.

32. Haptoncus opacus (Grouvelle).

Haptoncura opaca Grouvelle, 1897, Mus. Civ. Stor. Nat. Genova, Ann. IIa, 18 (38): 362.

Oblong-elongate, moderately convex, opaque, finely reticulate, pubescence yellow, reddish brown. *Head* with small acute temples behind eyes; last segment of antennal club narrower and shorter than preceding; submentum shining, rather closely coarsely punctate, faintly reticulate. *Prothorax* nearly twice as wide as long, a little narrower at apex than at base, anterior margin widely and strongly emarginate, anterior angles rounded, posterior angles obtuse, sides arcuate and somewhat reflexed, densely punctate. Scutellum triangular. *Elytra* nearly as wide as prothorax, one and one-fourth times as long as wide together, separately rounded on tips, a little less dull than prothorax, more sparsely and more lightly punctate. Pygidium densely punctate, more shining than elytra. Tibiae simple in both sexes. Length 1.5-2.0 mm.

DISTRIBUTION: Sumatra, Caroline Is.

PONAPE. Colonia, one specimen, June-Sept. 1950, Adams.

KUSAIE. Mutunlik, 22 m., two specimens, at light, Feb. 1953, Clarke.

33. Haptoncus sobrinus (Grouvelle).

Haptoncura sobrina Grouvelle, 1894, Soc. Ent. France, Ann. **63**: 15, fig.

Oval, fairly convex, shining, smooth, not at all alutaceous, pubescent, fairly dark brown testaceous, densely and strongly punctate. *Head* with front somewhat convex, impressed on each side toward base of antennae; without temples behind eyes; submentum reticulate, shallowly and obsoletely punctate. *Prothorax* transverse, narrowed anteriorly, widest a little before posterior angles, anterior margin a little wider than head, emarginate, anterior angles rounded, posterior angles distinct, nearly right-angled, sides evenly arcuate, fairly widely explanate, base truncate, punctation stronger and denser than on head. Scutellum triangular, punctate. *Elytra* as wide as prothorax, sides arcuate, tip a little narrower than base, subtruncate, sutural angles rounded. Tibiae simple in both sexes. Length 1.75 mm.

DISTRIBUTION: Bourbon, Seychelles, Madagascar, Caroline Is.

KUSAIE. Mutunlik, 22 m., one specimen, light trap, Jan. 1953, Clarke.

34. Haptoncus sordidus Grouvelle.

Haptoncus sordidus Grouvelle. 1905, Mus. Civ. Stor. Nat. Genova, Ann. III, a, 2 (42): 320.

Short oval, moderately convex, transversely alutaceous, opaque, elytra particularly dark testaceous, pubescence rather dense and dull testaceous, densely punctate. *Head* very transverse, densely but not strongly punctate; eyes moderately large and set a little ahead of posterior angles; temples acute; antennae rather long, segments three to five, especially three and five longer than wide, club oblong, nearly twice as long as wide, segments about equal, terminal segment a little more slender than preceding; submentum alutaceous,

coarsely closely punctate. *Prothorax* transverse, nearly two and one-half times as wide as long at its greatest width, apex considerably narrowed, base a little contracted, anterior margin widely but not strongly emarginate, anterior angles rounded, posterior angles obtuse, sides strongly rounded, narrowly margined, base truncate, punctation very dense, relatively strong, confluent toward base. Scutellum triangular, rather large, punctate. *Elytra* oval, a little longer than wide together, apex obliquely truncate, separately rounded, densely and subrugosely punctate, punctation stronger than on prothorax, humeri rounded. Pygidium triangular, fairly strongly rounded on tip. Length 1.67 mm.

DISTRIBUTION: New Guinea, Mariana Is., Caroline Is., Marshall Is.

S. MARIANA IS. GUAM: Mt. Alifan, one specimen, in *Pandanus* fruit on ground, June 1936, Swezey.

PONAPE. Colonia, one specimen, June-Sept. 1950, Adams.

MARSHALL IS. WOTHO: One specimen, eating holes in overripe fallen breadfruit, Mar. 1952, Fosberg, no. 837. LAE: Lae I., two specimens, Oct. 1953, Beardsley. ARNO: Ine, one specimen, in rotten breadfruit, July 1950, La Rivers.

The specimens from Guam and Arno are testaceous but in all other characters agree with the description of this species.

35. Haptoncus testaceus Murray.

Haptoncus testaceus Murray, 1864, Linn. Soc. London, Trans. **24**: 403.

Haptoncus vulpecula Redtenbacher, 1867, Reise Novara, 34.

Oval, slightly oblong, reddish-testaceous, shining, transversely alutaceous, sparingly pubescent, rather sparsely punctate. *Head* finely sparsely punctate; antennae dark rufous; submentum shining, smooth, coarsely, closely punctate; temples present behind eyes. *Prothorax* nearly twice as wide as long, narrower at apex than at base, apex emarginate, anterior angles rounded, sides feebly arcuate, narrowly reflexed, hind angles rectangular, base truncate. Scutellum closely punctate, transversely alutaceous. *Elytra* a little longer than wide together, somewhat narrowed posteriorly, tips truncate, sutural angles obtuse, outer angles rounded. Pygidium triangular, alutaceous. Metasternum alutaceous on disc, becoming reticulate toward sides; ventral abdominal segments obsoletely alutaceous. Posterior tibiae of males with basal two-fifths slender and apical portion twice as wide, inner margin sinuate, outer margin more or less bent, evenly arcuate. Length 2.1 mm.; width 1.1-1.3 mm.

DISTRIBUTION: Macassar, New Guinea, Micronesia.

S. MARIANA IS. GUAM: Piti, two specimens, in rotten breadfruit, Sept. 1936, Swezey; July 1937, Oakley.

YAP. YAP I.: Three specimens, July 1946, Oakley.

GILBERT IS. ONOTOA: Tanyah, one specimen, in *Pandanus* fruit, July 1951, Moul.

This species is very closely allied to *Haptoncus luteolus* (Erichson) but differs in the following characters: larger, less pubescent, more shining, somewhat more rufous, antennae dark rufous instead of uniformly testaceous, the thorax somewhat narrower in front, anterior angles rounded instead of obtuse, sutural angles of elytra obtuse instead of right-angled. The male hind tibiae

on the British Museum specimen that I examined were rather strongly arcuate on the outer margin but, as the male tibiae in *Haptoncus luteolus* vary somewhat in this respect, I hesitate to place much confidence in this character without seeing additional specimens.

36. Haptoncus valgus Gillogly, n. sp. (fig. 12, *c*).

Oblong-ovate, subdepressed, strongly closely punctate, surface shining, not at all alutaceous, pubescence pale, short, and close-lying; color testaceous. *Head* with anterior tentorial pits distinct, closer to base of antennae than to each other, front slightly more convex toward apex than vertex; eyes large, prominent, occupying whole side of head; temples absent behind eyes; inner margins of eyes nearly straight and converging anteriorly, surface closely coarsely punctate; submentum smooth and shining, rather closely, coarsely punctate. *Prothorax* transverse, width to length as 1.5 to 1, anterior margin considerably narrower than base, deeply emarginate, emargination about one-third of width of apex, anterior angles broadly rounded, sides evenly arcuate, narrowly margined, and reflexed, slightly explanate near posterior angles which are rounded, nearly right angled, apparently somewhat projecting backward due to a sinuation near the angle; base straight in front of, but bisinuate on each side of, scutellum, surface strongly, closely punctate. Scutellum triangular, transverse, punctate as prothorax. *Elytra* evenly arcuate, length to width as 1.4 to 1, attenuate from posterior third to squarely truncate tips, exterior apical angles broadly rounded, sutural angles separately rounded, punctation stronger and closer than on prothorax, becoming rugose on humeri and sides. Pygidium exposed, triangular, finely punctate. Male supplemental segment terminal and visible from above. Male middle tibiae dilated on apex, inner margin bisinuate. Length 1.8-2.3 mm.; width 0.8-1.0 mm.

Holotype, male (US 65913), NAMRU-2, Pt. Oca, Guam, Mariana Is., in light trap, June 29, 1945, G. Bohart and Gressitt; allotype, female (US), Pt. Oca, Guam, in light trap, May 31, 1945, Bohart and Gressitt; 317 paratypes (BISHOP, US, CAS, CM, MCZ, KU) : Guam; 274, Pt. Oca, in light trap, May 1945, Bohart and Gressitt; one, Pt. Oca, May 28, 1945, Bohart and Gressitt; three, Pt. Oca, June 23, 1945, Bohart and Gressitt; two, Pt. Oca, July 16, 1945, Bohart and Gressitt; one, Pt. Ritidian, in light trap, Aug. 1, 1945, Gressitt; one, Agat, June 12, 1945, Gressitt; 34, Dededo, in *Pandanus* fruit, June 8, 1935, Oakley. One specimen, Koror I., Palau Is., Mar. 4, 1938, Esaki.

DISTRIBUTION: Mariana Is. and Palau Is.

HOST: *Pandanus* fruit.

This species is closely allied to *Haptoncus concolor* Murray but differs from the description of that species in being strongly closely punctate rather than lightly punctate, the base of the prothorax is straight only in front of scutellum and bisinuate on each side instead of "truncate except near posterior angles," the tips of the elytra are considerably narrower than the base instead of "not much narrower than base," and the sutural angles are separately rounded rather than nearly right-angled. The species name "valgus" refers to the peculiar middle tibiae of the male.

Genus **Stelidota** Erichson

Stelidota Erichson, 1843, IN Germar's Zeitschrift für Ent., **4**: 300 (type: *Nitidula geminata* Say).

Body oval, rather convex, moderately small. *Head* small. Antennae a little longer than head, first segment strongly enlarged, second convex, third to fifth slender, sixth to eighth short, club oval. Antennal grooves subocular, parallel, and moderately distinct. Labrum bilobed. Mandibles with a small tooth behind apex, bearded on inner side. Lacinia short, broad, tip rounded, heavily bearded on tip and inner side. Maxillary palpi with first segment small, second clavate, third short and transverse, fourth cylindrical and about as long as other three together. Ligula with rather small paraglossae. Labial palpi with first segment minute, second clavate, third thick, oblong, sometimes with setae on tip. Mentum transverse, broadly and deeply emarginate anteriorly. *Pronotum* as wide as elytra. *Elytra* entire, serially punctate, more or less costate, tapering to apex; epiplurae broad, attaining apices. Prosternal process broad, elevated and rounded behind coxae. Mesocoxae a little farther apart than procoxae. Metacoxae nearly twice as far apart as mesocoxae. Tarsi moderately dilated. Claws simple.

Males with supplementary dorsal segment distinctly visible or scarcely evident; middle and posterior tibiae sometimes apically dilated.

37. **Stelidota alternata** Gillogly, n. sp. (fig. 14, *a-d*).

Elongate oval, attenuate posteriorly, little shining by reason of close coarse punctation, lightly covered with pale pubescence, sides of prothorax and elytra with narrow rufous marking, elytra variously marked with pale rufous or yellow spots, venter dark rufous. *Head* coarsely, closely punctate, punctures becoming fine on clypeal area, two large impressions on front between bases of antennae nearly meeting but leaving a longitudinal carina at middle and giving a distinct convexity to clypeus. *Prothorax* with width to length as 1.9 to 1, apex less than two-thirds width of base, widest one-fourth distance from base, sides narrowly explanate, evenly arcuate, apex strongly emarginate, base nearly straight, anterior angles distinct, obtuse, posterior angles distinct and slightly obtuse, sur-

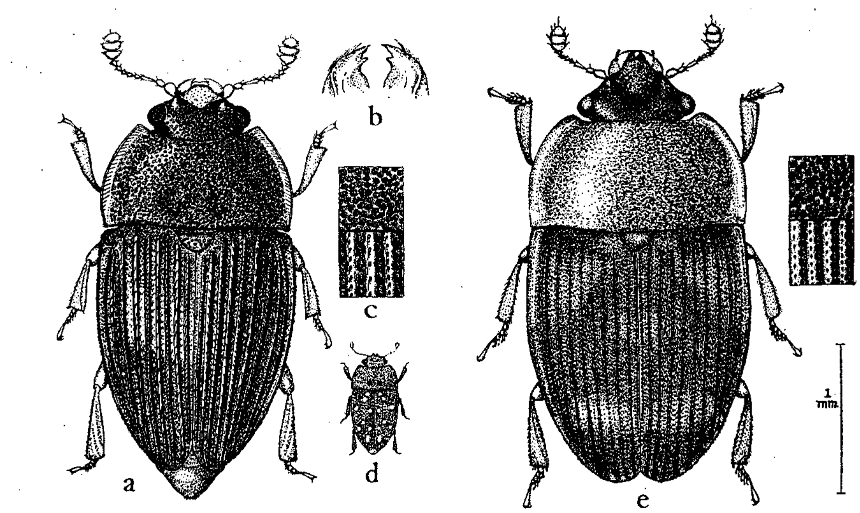


FIGURE 14.—**a-d**, *Stelidota alternata*: *a*, holotype, male, length 2.6 mm.; *b*, mandibles: *c*, punctations; *d*, maculations. **e**, *S. nigrovaria*, male, Pulo Anna I., length 2.6 mm.

face strongly, coarsely, uniformly rugosely punctate, two rather large depressions on disc at posterior third near midline. Scutellum semicircular, finely punctate. *Elytra* with width to length as 1 to 1.2, costate, serially punctate; grooves with moderately large, shallow, close, longitudinally oval punctures each set in a transverse oval depression; nine costae alternately with closely set setae and sparsely set setae, sutural costae with two or three setae opposite each large serial puncture, while alternate costae have only one seta opposite each large puncture; side margins pale, narrowly explanate, evenly arcuate, tip rather acute, sutural angles separately rounded, each elytron marked with eight small pale spots. Venter dark rufous, legs paler. Mentum strongly closely punctate. Prosternum less densely punctate than mentum. Metasternum shining, less densely punctate than prosternum, axillary space about one-sixth as long as epimeron. Post-coxal lines on first abdominal segment enclosing moderately large triangular area, each line sinuate and lines meet in an acute point near posterior margin of segment. Abdominal segments coarsely punctate. Male supplementary segment very small, visible from below. Tibiae simple. Length 2.6 mm.; width 1.3 mm.

Holotype, male (US 65914), Guam, Yona, Feb. 9, 1938, Oakley. Allotype, female (US), same data as holotype. Eight paratypes (US, BISHOP), same data as types.

Saipan: Three paratypes (CM), Sadog Talofolo, Talofolo area, in decaying *Pandanus* fruit; Feb. 9, 13, and Mar. 2, 1945, Dybas; one paratype, As Mahetog area, under decaying nut, Dec. 25, 1949, Dybas.

DISTRIBUTION: S. Mariana Is., (Guam, Saipan).

Of the four specimens from Saipan, one agrees in color with the Guam specimens; the others are paler. One of these specimens has the elytra testaceous except for the tips. As all specimens agree in the other characters, including the degree of development of the prothoracic depressions, I have no hesitancy in including all specimens at hand under this species.

38. **Stelidota nigrovaria** (Fairmaire). (Figure 14, *e.*)

Omosita nigrovaria Fairmaire, 1849, Rev. Mag. Zool. II, **1**: 364.

Stelidota multiguttata Grouvelle (non Reitter), 1892, Soc. Ent. Belg., Ann. **36**: 60.

Oval, narrowing posteriorly, moderately shining, lightly pubescent, rufo-piceous with paler head, margins of prothorax, elytral spots, and venter. *Head* with two rather deep impressions between bases of antennae, punctation coarse and very close on vertex becoming less dense and less coarse on clypeal area. *Prothorax* twice as wide as long, apex much narrower than base, sides arcuate from middle to apex, rather broadly explanate, becoming deplanate near posterior angles, anterior angles rounded, posterior angles rectangular, base sinuate on each side near posterior angles, disc moderately convex, strongly densely punctate. Scutellum semicircular, punctate, piceous. *Elytra* with width to length as 1 to 1.25, with nine costae, costae with closely set, serial, pale setae; grooves with a single row of large, shallow, circular punctures separated by less than their diameter, intervals between these two series of serial punctures shining and sparsely covered with very fine punctures; sutural costa not reaching tip but meeting suture anterior to it; sides explanate, evenly arcuate to acutely rounded tip near suture, sutural angles rounded. Pygidium covered. Venter uniformly rufo-piceous. Mentum strongly closely punctate. Prosternum somewhat less densely punctate than mentum. Metasternum punctate, shining, with very short axillary space behind mesocoxae. First abdominal segment with post-coxal line parallel to longitudinal axis of body and nearly crossing segment. Male supplementary segment very small, visible from below. Tibiae not dilated. Length 3 mm.; width 2.2 mm.

DISTRIBUTION: Tahiti, India, Caroline Atolls.

CAROLINE ATOLLS. PULO ANNA: two specimens, Sept. 1952, Krauss.

According to Grouvelle (1908), this species closely resembles *Stelidota octomaculata* (Say) but may be distinguished by the first sutural spot not covering scutellum but diverging from it. I find these specimens to closely resemble *Stelidota multigutatta* Reitter as described, but examination of this latter species from Japan shows the serial punctations of the elytra to be oval with an indentation on the posterior margin of each and the elytral costae to be obsolete.

Genus **Prometopia** Erichson

Prometopia Erichson, 1843, IN Germar's Zeitschrift für Ent. **4**: 279 (type: *Nitidula sexmaculata* Say).

Body large, oval, depressed. *Head* large, clypeus indistinct. Front not lobed over bases of antennae. Antennae slender, longer than head, first segment convex, second short and convex, third slender and as long as next three together, fourth to eighth short and nearly equal in length, ninth triangular, club elliptical. Antennal grooves moderately deep, sinuate, and slightly convergent. Labrum nearly semicircular, feebly emarginate. Mandibles prominent, bifid at tip, tooth behind apex. Lacinia slender, rounded at tip, with a short beard. Maxillary palpi long and slender, first segment small, second longer and clavate, third longer, fourth slender and nearly as long as first three together. Ligula with small paraglossae. Labial palpi long and slender, first segment minute, second longer than third. Mentum large, completely covering bases of maxillae, rather deeply emarginate in front. Pronotum deeply emarginate anteriorly, sides broadly explanate, as wide as elytra. Scutellum small and broad. *Elytra* entire; epipleurae very broad, attaining apices. Prosternal process flat, greatly widened behind coxae, tip truncate. Mesocoxae twice as far apart as procoxae. Metacoxae a little farther apart than mesocoxae. First ventral abdominal segment as long as next two together, second to fifth about equal in length. Femurs broad and flat. Tarsi very feebly dilated.

Males with supplementary segment visible only from beneath.

39. **Prometopia quadrimaculata** Motschulsky (fig. 15).

Prometopia quadrimaculata Motschulsky, 1863, Bull. Moscou **36** (2): 440.

Oval, depressed, moderately shining, finely sparsely pubescent, pale to dark piceous, margins of prothorax and elytra pale, two pale spots on each elytron, beneath pale. *Head* triangular, transversely impressed between bases of antennae, punctation rather sparse and coarse above clypeal suture, becoming fine anterior to it, very fine and close on labrum. Clypeal region with median longitudinal, lightly raised carina. Eyes rather coarsely faceted, inner margins parallel, a definite suture connects inner margins of eyes giving a rectangular form to front, head behind this suture impunctate in a narrow transverse band then very densely strongly punctate. *Prothorax* two and one-half times as wide as long, anterior angles prominent, acute, apex deeply emarginate, narrow, widened to middle and nearly parallel from middle to base, sides explanate, posterior angles rectangular, base somewhat bowed anteriorly, punctation fine and sparse on disc, becoming close and very coarse near sides, pubescence on disc directed toward longitudinal center line giving illusion, in certain lighting, of longitudinal depression. Scutellum rather small, nearly semicircular, finely closely punctate. *Elytra* as wide as thorax, arcuately narrowed to sutural angle, sides explanate, basal spot slightly dilated toward suture, distal spot circular, punctation more obsolete than on thorax. Submentum rugosely punctate. Prosternum shining, sparsely strongly punctate. Metasternum shining, very finely sparsely punctate. Axillary space a large triangle extending half the length of the metasternum, enclosed space reticulate,

obsoletely punctate. Epimeron with raised evenly arcuate ridge, shaped to fit outer edge of middle femur when legs are folded against body; arc of this ridge if extended would meet with axillary line and with posterior margin of hind coxa. Abdominal segments nearly equal, finely closely punctate and pubescent. First abdominal segment with divergent straight post-coxal lines which extend nearly across segment from inner margins of coxae and are met near middle of segment by a curved post-coxal line which leaves coxal margin at its midpoint, creating a triangle behind proximal halves of each coxa. Outer anterior corners of first four abdominal segments marked off by other lines to form progressively smaller triangles on each. Supplementary segment of male not visible in repose. Length 2.8-4.0 mm.; width 1.6-2.1 mm.

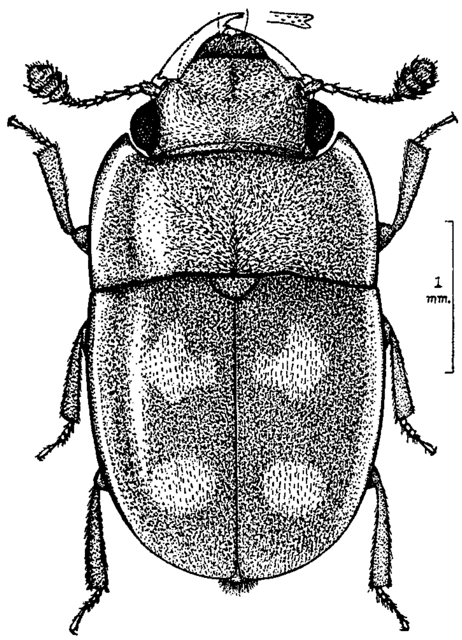


FIGURE 15.—*Prometopia quadrimaculata,* male, Guam, length 3.7 mm.

DISTRIBUTION: Ceylon, India, Burma, East Indies, Christmas I., S. Mariana Is.

S. MARIANA IS. GUAM: Haputo Pt., nine specimens, Mar. and Apr. 1948, Maehler; one specimen, Mar. 1948, Dybas.

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